Memo from the Editor

"Unless the manufacturers of milk processing equipment are able to obtain certain essential materials now, the milk processing industry will be seriously hampered in its ability to handle the nation's military and civilian milk supply during the coming flush period. In spite of the uncertainties and inexperience at the outset of World War II, we were never so short of materials and as completely helpless as we are today."

These are the words of Howard P. Faust, as he testified before the Senate Committee on Small Business. They reflect the urgent need of a solution to a serious problem. They also reflect a great service to the dairy industry.

N.M.

American MILK REVIEW

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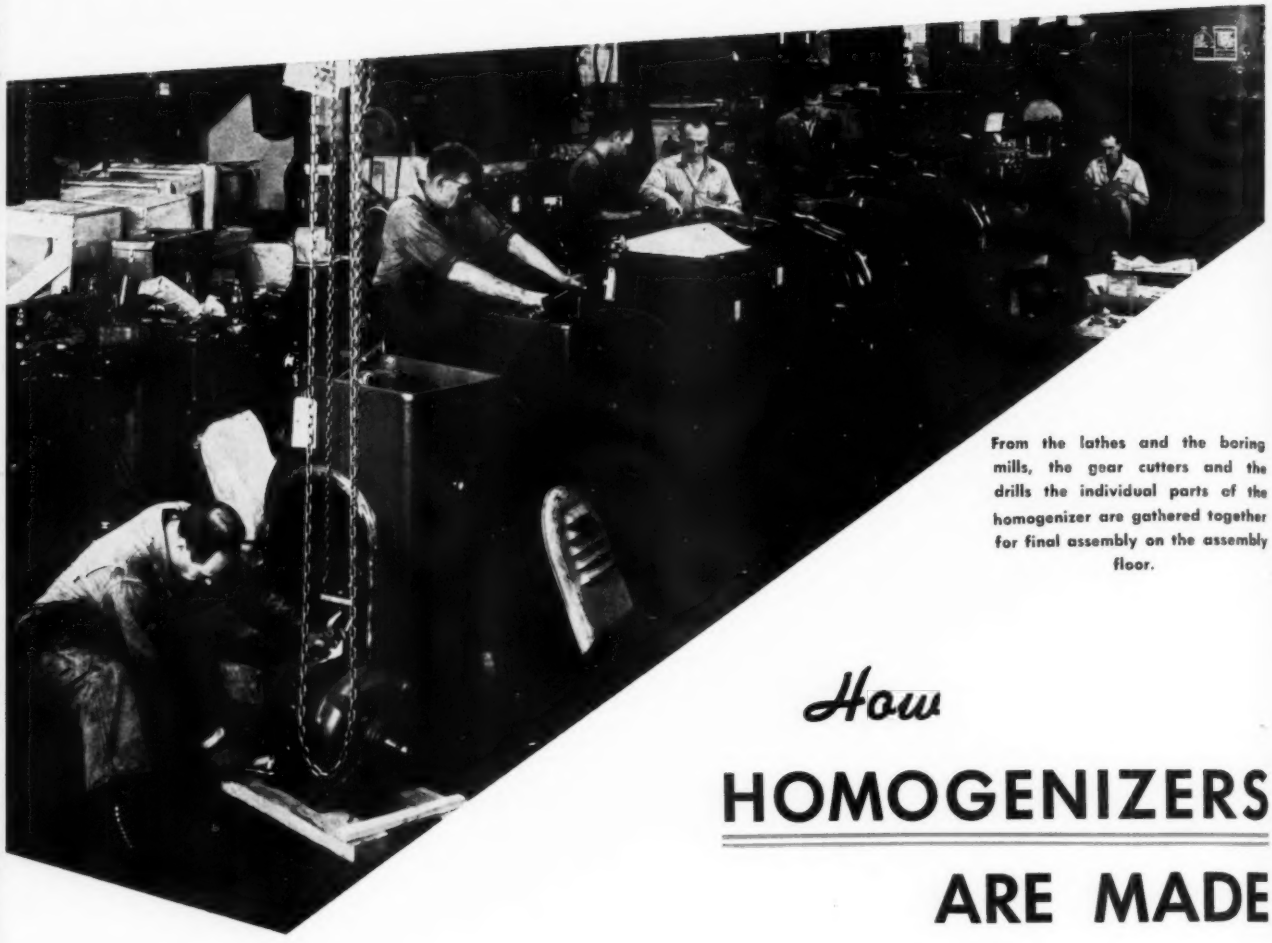

From the lathes and the boring mills, the gear cutters and the drills the individual parts of the homogenizer are gathered together for final assembly on the assembly floor.

How HOMOGENIZERS ARE MADE

By NORMAN MYRICK

Photographs Courtesy Manton Gaulin Mfg. Co. Inc.

Exclusive feature

A human hair is about one hundredth of an inch in diameter. Split this tiny distance into a hundred equal parts and you have the fabulous degree of exactness that the men who make homogenizers take for granted. A homogenizer is a precision built machine. It has to be. With tremendous pressures forcing the milk to seek every possible means of escape there is no room for an error. It has to be right and it has to be rugged.

It is difficult to say just where a homogenizer begins. There is a constant flow of raw materials, castings, forgings, and motors, into the factory. The process of shaping these materials into their final form goes on simultaneously throughout the plant. For example, a man may be cutting the teeth in a set of gears at the same time another operator is drilling the necessary holes in the flange while still another operator is turning down the plungers or pistons to the size specified in the blue print. The raw material comes in at the receiving room, is fanned out through the plant to the lathes and drills and milling machines, and is brought together again at the assembly floor. It is a marvelous, intricate system that blends a hundred diverse operations into a harmonious whole.

Because of the diversity of techniques that are involved in building of the various parts that go into a homogenizer much of the preliminary rough work is done by sub-manufacturers. To make a casting there must be a foundry and skilled foundrymen, pattern makers, moulders and furnace men. To make the cylinder block, which is a forging, there must be a forge shop with the heavy hammers and forges that such an operation entails. It is impractical for a homogenizer factory, with a limited amount of this type of work, to maintain a foundry or a forge shop. Consequently forgings and castings as well as the electric motors that power the homogenizers are made by sub-contractors. The castings and forgings come to the plant in rough form. The bulk of the work in the homogenizer factory, therefore, is machining the castings and forgings and other parts down to their finished form.

The machining operations are done

NO WONDER THEY CHANGED TO THE BUCK "MINI HALF PINT" GLASS BOTTLE

Will's Dairy

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January 12, 1951

Mr. W. A. Seger
Buck Glass Company
Baltimore 30, Maryland

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First: Our drivers like the MINI bottle because it is much lighter--each case of 1/2 pints weighs about 8 lbs. less than with the old 1/2 pint bottles. In the plant, they handle fast and well and they are much less inclined to top heaviness than the old heavier 1/2 pints.

Our customers are enthusiastic about them--in store, restaurant and domestic refrigerators, their compact shape and reduced height permit them to fit in the shallower shelves, releasing taller shelves for other larger items. They are attractive in appearance, easy to pour from and can be gripped easily by children.

We compliment you particularly on the basic concept of a new improved and attractive glass container which provides us with a better and more economical bottle. We have adopted it 100% for our 1/2 pint use and to tell you we are pleased with it well expresses our opinion.

Yours very truly,

Edward J. Sale

Edward J. Sale
Sales Manager

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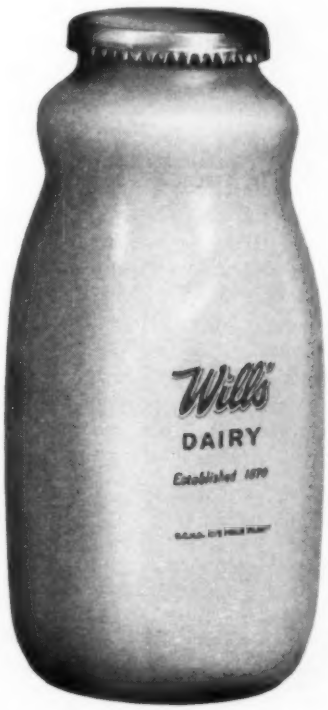
Customer Preference

More Economical



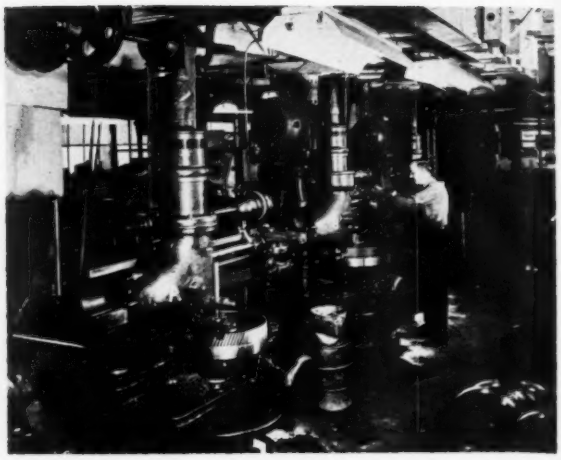
IT'S EASY TO SEE that Will's Dairy thinks highly of the Buck MINI Half Pint Bottle. And this is not an isolated case. Plant managers . . . dairy owners . . . sales managers in dairies everywhere have told us that Buck MINI Half Pint is the greatest advance in milk containers in years. This isn't hard to understand when you know that Buck MINI Half Pint has cut delivery costs . . . speeded up operations . . . increased trippage . . . lowered bottle losses . . . and completely satisfied customers. Don't you think it would be a good idea to find out what the Buck MINI Half Pint can do for you? We'll be glad to send you a sample and full information . . . write for it today.

THE BUCK GLASS COMPANY FORT AVE. AND LAWRENCE ST. • BALTIMORE 30, MD.

Originators of the Square Milk Bottle

XUM

On this massive planer surfaces on the homogenizer frame are planed down to specifications. Cutting tool held in a stationary position above the frame, moves over one space after each pass.



Gear teeth are involute curves. Cutting tool moves up and down against the periphery of the casting. Finished gears are remarkable examples of speed and precision in modern shop technique.

on many different machines. There are immense drills that stand twelve feet from the floor and can chew their way through twenty-two inches of stainless steel. There are massive horizontal boring mills that are used for finishing the surfaces on the homogenizer frames. There are the lathes, beautifully exact machines that are so finely made they can work down to ten thousandths of an inch. There are gear cutters moving up and down with a patient inexorable motion, trimming away excess metal from the castings, leaving the gear teeth shining and perfect.

Machine shop techniques have improved tremendously in the last decade. Vastly increased costs both of labor and equipment have placed a premium on speed and efficiency. The demand for machine tools created by the recent war and maintained by the unprecedented demand for consumer goods in the post war period has forced the price of those superb instruments to new highs. The present rearmament program has intensified the demand for machine tools and sent the price booming upward again. To operate effectively under economic conditions of this nature yet still meet the rigid specifications established by health authorities and the economics of the milk business requires astute management and an unrelenting search for a better method of performing a given task. One of the principal manifestations of this demand for efficient operation is in the high speeds at which the machines work. Some phases of the machining process have been speeded up to the point where one minute is required today where ten were required only a few years ago. Extremely hard, durable cutting tools, improved metals, plus the use of automatic and semi-automatic machines have been largely responsible for this remarkable progress.

In the business of building dairy equipment in general and homogenizers in particular, working with stainless steel has presented a difficult problem. Stainless steel has a tendency to tear when on the lathe or the drill press. If the cutting tool is not sufficiently sharp or improperly ground the steel does not cut cleanly. It is a good deal like cutting along the grain of a piece of wood with a draw shave. If the tool is sharp and is handled by a skilled operator a clean smooth cut will be made. If the tool is a trifle dull or the operator unskilled the cut may degenerate into a split. A small tear, or gouge in the surface of a piece of dairy equipment is an invitation to a high bacteria count. Such flaws in the surfaces with which milk comes in contact cannot be tolerated. Furthermore stainless steel is expensive and at the moment extremely scarce material. The job of boring holes, in a cylinder block or turning down a plunger is, consequently, an exacting and highly skilled job.

The cylinder block comes into the homogenizer factory as a solid hunk of stainless steel hammered into a rectangular shape. This forging is planed down to size and then taken to the great radial drill press where holes are bored for the cylinders, for the cylinder cap studs and for the inlet and discharge passages. The cylinder block is fastened to the bed of the drill press by means of dogs.

Jigs, flat pieces of metal with holes already in them, are fastened to the block. These jigs serve as patterns or gauges and are used over and over again as guides. They promote speed yet insure accuracy. When the jigs are in place the drill operator inserts the proper drill, reamer, or forming tool into his machine. Because the size of the hole varies according to the capacity of the homogenizer being built the tool used also varies. The controls that govern speed, feed and depth are set and the machine is ready to drill.

The actual drilling operation is deceptively simple. One sees a grizzled

Dr. G. Malcolm Trout, Michigan State College's authority on homogenization, has recently completed a valuable book on the subject. In the preface Dr. Trout says that "nearly two decades of close association with research and practical observation on homogenized milk have gone into the preparation of this manuscript." Well illustrated, supported with adequate statistical data, a product of the fertile mind of an outstanding dairy scientist, the book is a welcome addition to the literature available to the industry.

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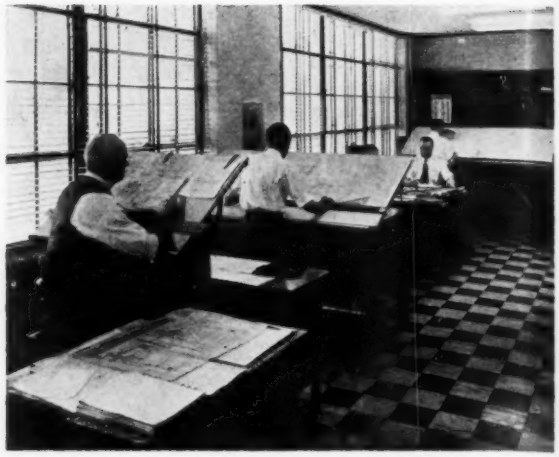
GREEN SPOT INC.
LOS ANGELES

On the lathes small homogenizer parts are turned down to size. Eccentric shafts, plunger adapters, and eccentric straps are shown undergoing machining process.



In the engineering and drafting room improvements and new designs are transferred from the mind to the drawing board. Men in this picture created the fine drawing on page 13.

machinist seated on a box in front of his machine watching the long spirals of metal curl up from the drill. From time to time he clears away the accumulated curls of steel, stops the drill and applies a lubricating material of oil and white lead to the tool. A stream of gray cooling liquid flows constantly over the drill and cylinder block. There is a sort of casualness about the operation, the same sort of casualness one associates with top flight athletes. They make the difficult look easy. Actually the machinist at the drill press is working in a finely drawn relationship with his machine. He has brought the drill to bear at precisely the center of the hole to be drilled. This in itself is a remarkable feat when one stops to think about it. The cylinder block weighs about a hundred and fifty pounds. It cannot be shoved hither and yon as one would move a piece of wood. It must be dogged down tightly so that it will not shift when the torque of drilling is applied. The drill itself is a huge bludgeon that appears to be the antithesis of accuracy. All of these diverse elements must be combined so that when the hole is drilled it is drilled exactly where it is supposed to be drilled and it is exactly the diameter that is called for. Somewhere in the shop another operator is turning out the plungers that will fit into those holes. The only margin of error that is tolerated is that fantastically tiny ten thousandths of an inch.

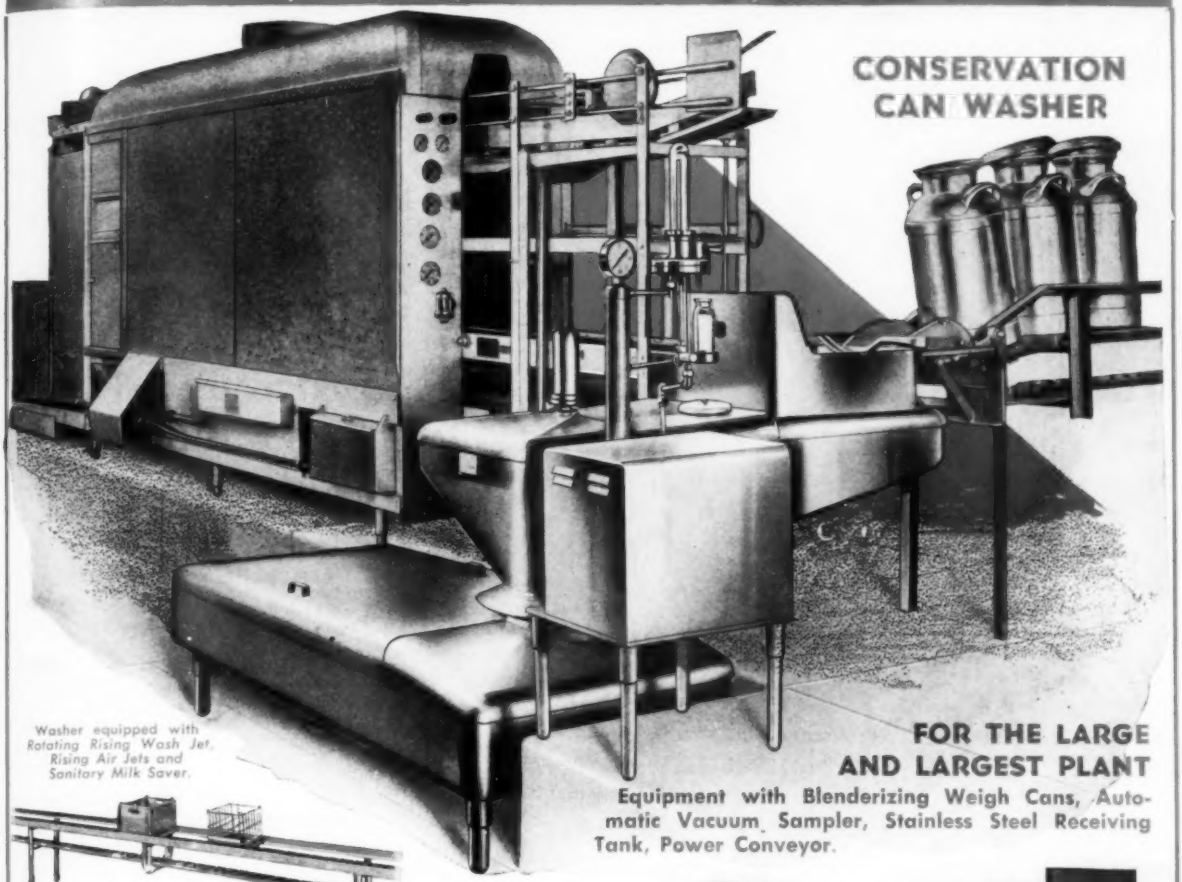
The gray, capable veteran sitting there so casually on the box has performed all of these exacting operations with a speed and a matter-of-factness that is the hallmark of the real pro. Now, as the drill twists deeper and deeper into the steel, he he is an artist just as surely as a concert pianist is an artist. He doesn't go in for flamboyant mannerisms, and his art is steel on steel rather than sharps and flats, but just as the pianist is in harmony with his instrument so is the machinist in harmony with his drill. He knows, or possibly senses before he knows, when the drill is not cutting exactly as it should, when the point is reached where the steel may begin to tear. The drill is an instrument for fine, beautiful work and the machinist plays upon it with a skill that is a combination of experience, talent, and pride.

The same skill, the same artistry is found in other operations throughout the homogenizer plant. Here is a man at a turret lathe turning out plunger adapters. He has a 12 foot bar of raw stock in his lathe. He sets his machine to make a pass along the surface of the piece and the tool moves the length of the stock peeling off a long twisted ribbon, leaving a gleaming expanse where there had been a dull rough surface. A deft movement of the hands and a stationary drill swings into place. It bores a hole that will be threaded to take the plunger. Another swift wasteless motion and a facing tool shears off excess metal to give an accurate square end to the piece. A touch of emery cloth takes down the ridges left by the cutting tools. Finally another tool bites into the stock cutting it off sharp and clean. There is a deftness, a sureness about the movements of the operator that are a pure joy to watch. Here is a man who knows his business, a man doing something that is a challenge to eye, hand and brain, and doing it superbly.

An overhead hoist rumbles along its tracks, a homogenizer frame weighing nearly half a ton, fresh from the horizontal boring mill, dangles from the hoist chain. Holes for bolts must be drilled in its ungainly bulk. The operator of the drill where the drilling and tapping will take place walks along side of the moving frame, a control cable leading to the hoist in his hand. He stops the hoist in front of his drill and then pushes against the frame so that it moves with hoist toward his machine, a movement at right angles to the path from the boring mill. He has the frame over the bed of his drill and presses a button in the control cable. The hoist plays out chain in response to his commands and deposits the frame on the drill press. It isn't in the exact spot where he wants it. Take up a little slack on the hoist chain. Push a little on one corner. Lower again. Shift the chain. Another slight lift and the frame swings around to the desired point. The button is pressed and the frame drops into place. Some of the holes must be drilled at an angle, some straight up and down. In either

(Please Turn to Page 68)

COST CUTTING EQUIPMENT FOR THE CREAMERY AND MILK PLANT RECEIVING ROOM



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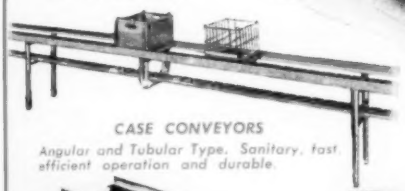

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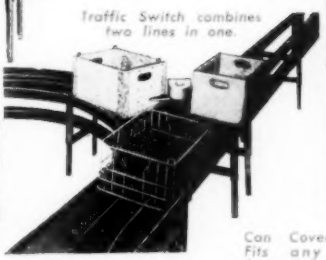
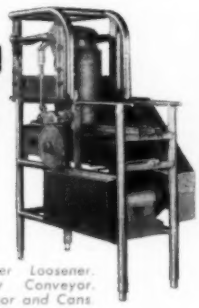


Traffic Switch combines two lines in one.



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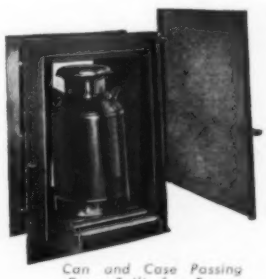

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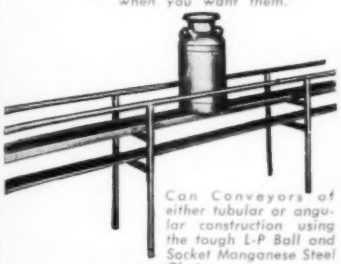
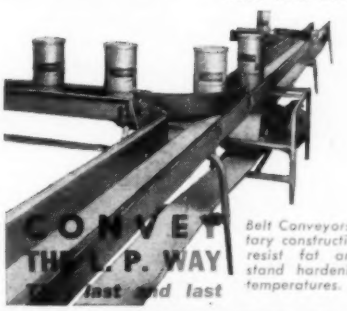


Can Conveyors of either tubular or angular construction using the tough L-P Ball and Socket Manganese Steel Chain.



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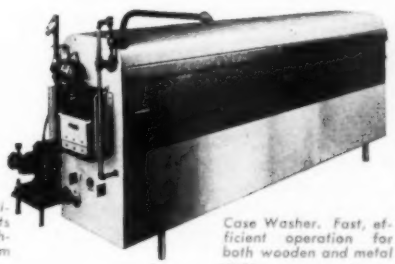

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THEORY OF HOMOGENIZATION

By LANCE REES
Manton Gaulin Mfg. Co.

Exclusive feature

For purposes of simplification, it is the writer's intention to discuss only the homogenization of milk, although the same general principles would apply to other homogenized dairy products or even industrial emulsions, such as oil or wax.

Homogenization is a mechanical process by which the fat globules in the milk are divided and sub-divided until there are from 200 to 500 times as many as in the original milk. This tremendous increase in the number of fat globules also increases the total surface area of the fat by 6 to 8 times. The process of course, neither increases nor decreases the total volume of fat present, but does increase the number and surface area of the fat globules.

Homogenization is usually accomplished by forcing the milk through a small orifice under suitable conditions of temperature and pressure, using a positive displacement plunger pump to furnish the pressure. The orifice consists of a valve and seat in which the two adjacent surfaces are parallel and lapped smooth and is surrounded by an impact ring against which the milk impinges as it leaves the valve. The breakup of fat particles is caused by the shear forces set up in a thin stream of milk travelling at high velocity (approximately 30,000 ft. per minute) between the closely adjacent surfaces of the valve and seat and then by a shattering effect as it impinges on the impact ring upon leaving the valve.

There is also thought to be a third factor in the breakup of the fat globules called cavitation. This is caused by the sudden release of pressure, which momentarily lowers the vapor pressure of the milk to a point where vapor pockets are formed. The fat globules bounce back and forth inside of these vapor bubbles and are shattered by the impacts against the bubble walls.

Having subjected the milk to this treatment, we now have a product which will not develop a cream line on standing and will pass the U. S. Public Health Standards for homogenized milk.

Action of Globules

So much for how milk is homogenized. Now the next question—

Why dont these small fat globules immediately join and form big globules again and why do they remain uniformly dispersed throughout the milk, instead of rising to the surface as they formerly did?

Before attempting to answer the question, let us first discuss emulsions, since milk itself is a natural emulsion.

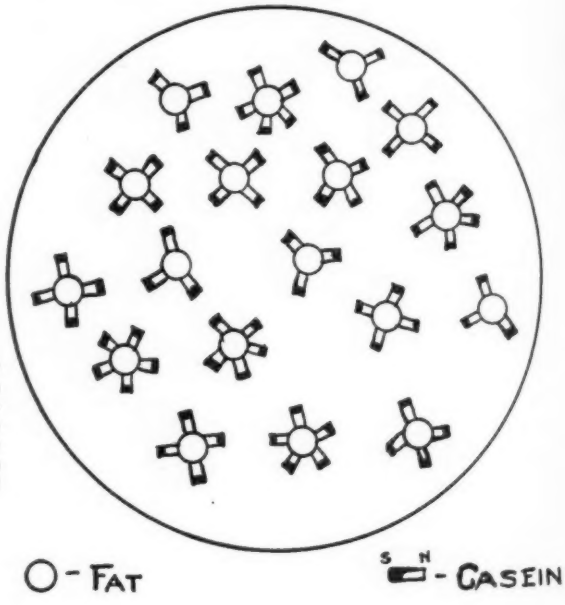
A simple emulsion will consist of three parts:

A. A water phase

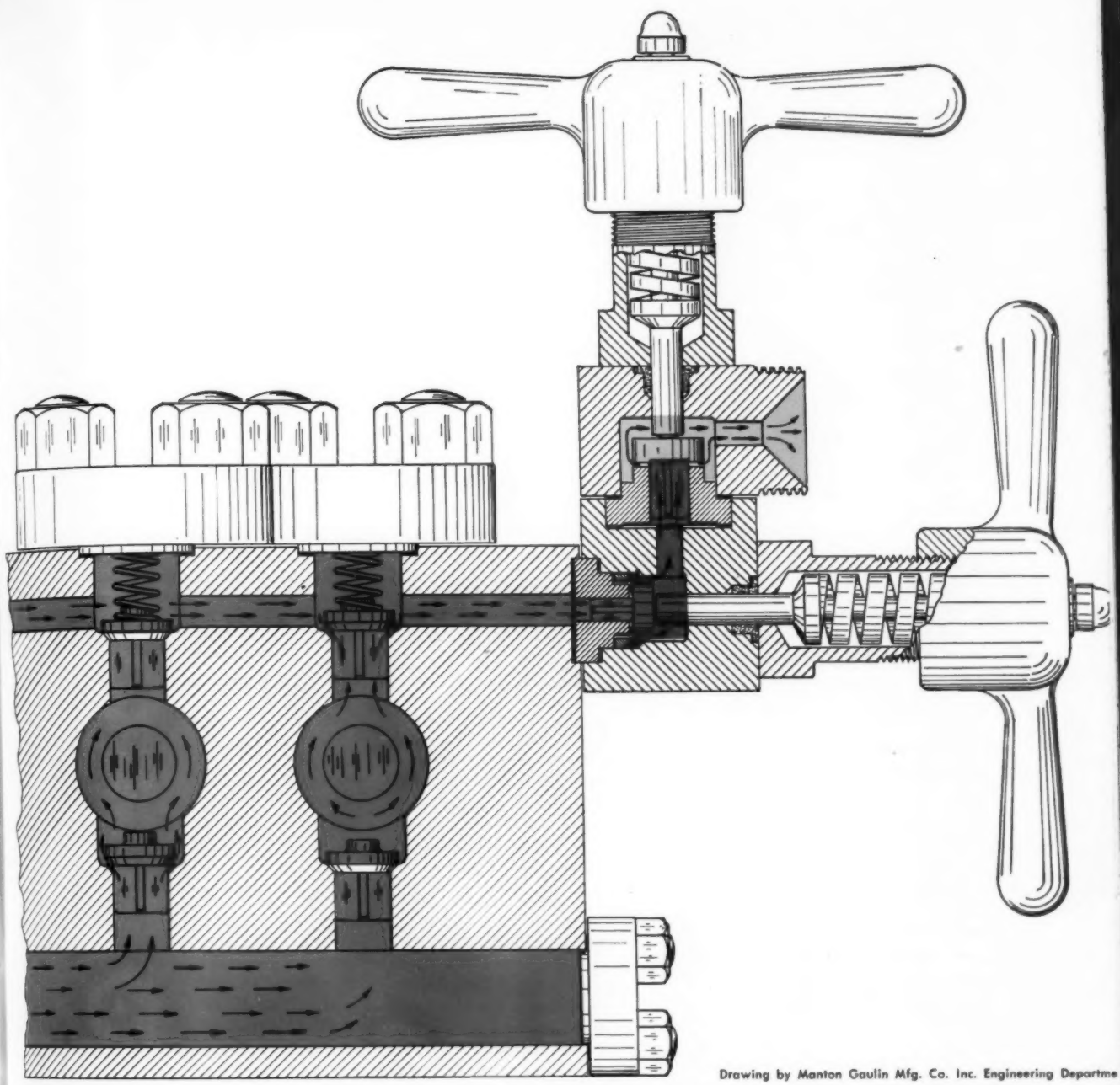
B. Water insoluble phase (fat)

C. A stabilizer

In milk the B part is broken up into small globules which are distributed throughout the A part. This is called an oil in water type emulsion and can be diluted with water. In the case of butter the reverse is true and the A part is distributed in the B part and is a water in oil emulsion which will dilute with oil, but not with water. The C part distributes itself around the internal phase (the fat in the case of milk) and prevents the individual particles from joining back together.



The drawing at right shows what the fat in milk might look like surrounded by its protective casein. This, of course cannot be seen, even with a high powered microscope.



Drawing by Manton Gaulin Mfg. Co. Inc. Engineering Departme

Cross sectional drawing showing the flow of milk through the homogenizer cylinder head and the homogenizing valves. Red color in the drawing indicates unhomogenized milk entering the cylinder head through the intake and forced by the pumping action of the plunger into the homogenizing valves. Green section indicates milk going through the first homogenizing valve, orange section indicates milk passing through the second stage and out the discharge.

Let us now consider milk with which nature has done a remarkable job of preparing a good natural emulsion. Milk as it comes from the cow, contains all the necessary ingredients for a good emulsion. There is the water insoluble material in the form of butter fat, the water phase and the stabilizer in the form of casein. There are of course additional materials such as albumen and salts that help in stabilizing but for purposes of simplicity let us consider only the principle one, casein. It is because milk contains all of these essential elements of a good emulsion that we are able to produce homogenized milk without adding or subtracting anything in the process.

We have mentioned that a stabilizer is necessary for a good emulsion and that in the case of milk, casein is that stabilizer. Now to explain how the casein acts to prevent the joining togetther of the fat particles, we can consider the casein molecules as small bar magnets, with one pole soluble in the fat and the other pole soluble in the water. Now if we say that the North Pole end of the casein molecule magnets are soluble in the fat, most of these will immediately attach

(Please Turn to Page 67)

PROPER MAINTENANCE IS SOUND BUSINESS

By H. L. BEHLMER
Cherry-Burrell Corp.

Exclusive feature

Because of the heavy duty high pressure service which they must perform and because of their sanitary construction involving stainless steel and other high cost alloys, homogenizers are costly to build and represent a sizeable investment to the user. It is, therefore, good policy for economic reasons to give the homogenizer proper and adequate care and attention. It is also good policy from a conservation standpoint under present conditions of impending drastic restrictions in the use of alloy materials which may affect production of new machines and of parts, that these machines be given such care and attention. Nickel, which is used in stainless steel and other homogenizer materials, is already in short supply.

The following will outline in a general way important points in the care of homogenizers, that are generally applicable to all machines of the reciprocating type which today are almost exclusively used. These machines consist of three main assemblies of parts; the "power end" or "drive end," the "liquid end" or "pump end" and the "homogenizing valve". The power end provides the necessary reciprocating motion to the three plungers of the pump end to permit a smooth pump liquid flow; the pump end develops the necessary liquid pressure and flow for efficient homogenization and the homogenizing valve does the actual homogenizing of the liquid.

Most of the operating mechanism is contained in the power end. Because of the high pressures required in most instances for satisfactory homogenization, the power end parts are subjected to relatively large forces and heavy bearing loads. Proper lubrication is, therefore, vitally essential. The instructions of the manufacturer in regard to the oil used and frequency of changing should be carefully followed. In some plants an attempt is made to standarize on a single oil for a number of different machines, one of which may be a homogenizer. This should not be done if the contemplated oil is different from that recommended for the homogenizer, without first consulting the manufacturer of the homogenizer. The oil recommended for the homogenizer is usually the result of long experience by the manufacturer in seeking the best results. In most cases it is specially blended to reduce corrosion, improve demulsibility and improve film strength. The oil must not be of a type which deteriorates or changes properties rapidly even in the presence of small amounts of water.

Contamination of the lubricant by water or metal particles is a frequent cause of excessive wear and difficulty. Periodic cleaning of the crankcase, especially on a new machine until it is thoroughly run in, to remove metal particle deposits will pay dividends in reduced maintenance cost. The cleaning should be done when changing oil before the new oil is added. When changing oil the old oil should be drained immediately after a run, not after the machine has been standing idle. Draining after a run when the oil is warm is an aid toward the removal of sludge and metal particles.

Frequent checks should be made to determine whether excessive water is present in the oil. Assuming a proper oil is used, most of the water present in the oil will settle to the bottom of the crankcase sump while the machine is idle overnight and it is good practice to pen the crankcase drain cock slightly before starting the machine and drain off any water which has settled to the bottom. When the amount of water which can be drained off in this way becomes appreciable, it is an indication that too much water is getting into the crankcase and steps should be taken to correct this. A small amount of oil will be lost during these draining operations and oil should be added as needed to maintain the proper level. The oil level should also be checked periodically and oil added if necessary to compensate for any leakage.

If excessive water is finding its way into the crankcase, the seals or packing around the plunger stubs at the front of the crankcase should be checked and replaced if necessary. If these are in a satisfactory condition, the gaskets between the crankcase and crankcase covers should be checked as sometimes this water enters during washing operations. The excessive use of water during the washing operation, such as having a stream from a hose playing on the machine should be avoided as under such conditions, water may easily find its way

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into the crankcase. If the homogenizer was originally equipped with water deflectors on the plunger stubs, these should be maintained in good condition and should not be removed from the machine as they greatly aid in keeping water from creeping along the plunger stubs and getting into the crankcase. It is even advisable to install these on machines which were not equipped with them. Some of the latest machines have every effective means provided for keeping water out of the crankcase, but even with these, frequent checks on water contamination are advisable.

Rotation Direction Essential

Correct direction of rotation of the homogenizer is essential to lubrication and extensive damage can result from incorrect rotation. When a new machine is installed or when a machine is installed in a new location in the plant, the rotation should be carefully checked. This should also be done when any change in electrical connections is made in the line to the homogenizer.

Present day motors require only occasional attention to lubrication, but because they require so little attention they are sometimes ignored altogether with costly results. Read and follow carefully the motor instructions furnished with the motor and lubricate the bearings as directed even though the bearings may be rather difficult to get at on some of the older machines.

Practically all homogenizers now have "V"-belt drives. These require very little attention, but the belt tension should occasionally be checked, especially on new machines. The belts have very long life, it not allowed to slip.

The pump and homogenizing valve assemblies should be cleaned daily. It is best practice to clean the parts immediately after each days run is completed and to leave the parts disassembled until just before starting the next run. Even though the parts are stainless steel or other high alloy material, there is a possibility of corrosion or pitting by the acids formed by the product remaining in the machine when it is left assembled for long periods of time after a run before cleaning. This corrosion or pitting is most likely to occur at the gasket and packing seating surfaces, particularly if the gasket and packing materials are absorbent such as leather, duck and rubber, fiber or paper or duck and plastic laminated material. Electrolytic action is also generally a factor in corrosion or pitting of these surfaces and some of the gasket and packing materials may contain substances which promote electrolytic action or which in themselves have a corrosive effect when wet. Gasket and packing material of homogeneous rubber or synthetic rubber have little, if any, tendency to promote corrosion or pitting, but even when these are used, it is best to be on the safe side and clean the machine as soon as practical after the day's operation is completed.

Stainless steel parts are costly and adequate care to preserve them in good condition is fully justified. The pump and homogenizing valve parts should be carefully handled to avoid denting or nicking them. Most of these parts are accurately machined to close tolerances and careless handling will distort the fittings so they will not fit properly, and the proper functioning of the parts may be impaired. The parts should not be dropped or thrown about or allowed to impinge against each other when cleaning. Each part should be individually and carefully handled and cleaned. A rubber mat on which the parts may be placed is desirable.

A small amount of vaseline occasionally placed on the various threaded parts of the pump end will prolong the life of the threads and make operation easier. Some of this lubricant should also be used on the close fitting guiding members of the homogenizing valve assembly to assure freedom of movement and freedom from sticking.

If the plunger packings are leather or of the duck and rubber type rather weak sterilizing solutions or hot water not over 170° F. should be used to avoid excessive deterioration of the packings. If the plunger packing is of the homogeneous synthetic rubber type, regular strength sterilizing solutions may be used or they may be sterilized by steam up to 225° F.

Periodic grinding in of cylinder valves especially on new machines, will aid greatly in keeping down maintenance expense of valves and cylinder. As soon as the seating surfaces of valves and cylinder loose a smooth appearance the valves should be ground in, but only sufficiently to restore smooth seating surfaces. These surfaces take on a skin hardness due to the operation of the valves and if regrinding is unduly postponed it will be necessary to grind to the extent that this skin hardness is removed. Therefore, it is important in order to preserve the hardness to grind the valves in before they get in bad con-

(Please Turn to Page 56)

In a grimly realistic presentation before the Senate Select Committee on Small Business, Howard P. Faust, chairman of DISA's Committee on Essentiality of Dairy Processing Equipment, declared "We cannot find a steel supplier who will place an order on file for us. We don't have promised to use or scheduled for delivery at even some indefinite future date a single pound of carbon steel."

Pointing out that "of all the foods required for military and civilian strength and moral, milk and other dairy products are first in importance and daily consumption," Mr. Faust said that the quantities of essential materials involved are fantistically small as related to the enormous benefits accruing to the 76 manufacturers, the 30,000 processors, the 4,495,000 dairy farmers and the 150,000,000 consumers of this country. The entire industry, Mr. Faust said, is asking a monthly allotment of only 833 tons of iron, 1,510 tons of carbon steel, 759 tons of stainless steel, 98 tons of copper and copper base alloys and 61 tons of aluminum.

As a practical solution to this potentially disastrous situation, Mr. Faust, proposed that "An allocation of materials for this industry be established now to cover our needs for the first half of 1951." The essential materials for equipment cannot be obtained without an allocation or comparable government assistance, Mr. Faust declared.

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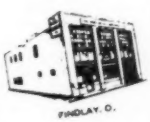
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The Page Dairy Company

TOLEDO 1, OHIO

May 17, 1950

Mr. Harold Kendall
Kendall-Lamar Corp.
Potsdam, New York

Dear Mr. Kendall:

I want to take this opportunity to thank you for the excellent cooperation your Mr. Dorothy gave us in making the installation of our receiving room equipment in our Toledo plant.

We started the operation of our receiving room yesterday morning and after two day's operation we want to say we are more than pleased with the results we are achieving. I could go into a great deal of detail as to the various points which please us; however, the one thing which is most outstanding is the fact that where we used to operate with two men we are now operating with one. Not only did we eliminate one man in our operation, but we also speeded up our dumping operation by at least 50% already, and probably when the operator becomes more accustomed to the equipment this efficiency will be every more improved.

I hope that we will be able to set up an equally efficient operation at our Mansfield Plant, as we feel that this operation will more than pay for itself in a very short period of time.

If at any time you wish to show your receiving equipment here in our plant to other people, we want you to feel free to do so as we are most proud of its operation and would be willing to recommend it to anyone who will be interested.

Sincerely yours,

Arnold H. Page
Production Manager

KENDALL-LAMAR CORPORATION
POTSDAM, NEW YORK

FLAVOR
DRINK MORE Milk
NATURE'S most nearly PERFECT FOOD
PROTECT
THE CHILDREN
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HANDI-SQUARES are handy, square, save space, provide the trusted protection and unequaled economy of the returnable bottle *plus* new conveniences for the consumer and greater operating efficiency for you.

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HOMO OPERATING TIPS

By DALE GILLESPIE
Creamery Package Mfg. Co.

Exclusive feature

Homogenizers require more care in installation and maintenance than other machines normally used in a dairy plant. It is particularly important to allow adequate space around the homogenizer so that the machine may be properly serviced. It is not infrequent to find homogenizers which are so located that it is impossible to remove the motor or the gears from the machine without a major moving operation. Frequently, the homogenizer is located in a position so that the cover plates cannot be removed without dismantling the electric conduit or the water pipe. Plant operating experience has demonstrated that a minimum of three feet (3′) of clear space around the homogenizer is necessary for proper maintenance and cleanup. The machine should be located as close to the interconnected equipment as possible so that pipe line lengths will be at a minimum. All pipe lines leading to and from the homogenizer should be rigidly supported with proper pipe hangers. A momentary contact switch should be located either on or immediately adjacent to the machine so that the machine can be stopped at any time should emergencies develop. If another switch located at a distance from the machine is necessary this can be added as an additional switch, without sacrificing safety. One of the most common difficulties experienced with homogenizers is power lines not installed in accordance with the National Board of Fire Underwriters Standards.

Lubrication

The manufacturer's instructions for lubrication should be followed without deviation. The writer recently found a homogenizer being operated with a lubricant in the gear case which had about as much lubricating property as kerosene and, as a result, this machine required a complete replacement of all major working parts. This lubricant had been recommended by a field engineer for a reputable manufacturer of lubricating products who was not sufficiently familiar with the duties of the equipment and lubrication requirements. Manufacturers have all had similar experiences at various times and for that reason have made specific recommendations which should be carefully followed. The motor manufacturer's recommendations should be followed in caring for the electric motor and if these instructions are not on hand, they can be secured by writing to the motor manufacturer. If the homogenizer is equipped with pressure lubrication the pressure gauge should be observed each time the machine is started and if the pressure fails to raise to the normal operating level, the machine should be immediately stopped and the cause for the lack of oil pressure determined before the machine is restarted. No other single neglect can be as expensive as the failure to provide proper lubrication for an homogenizer.

Homogenization

All products must be heated to a temperature of at least 125° F. prior to homogenization in order to secure proper fat break up. The product must be immediately heated to pasteurization temperature following homogenization, to avoid off-flavors resulting from lipase, a fat splitting enzyme normally present in raw milk. Where equipment limitations make it necessary to homogenize following pasteurization, the process has proven to be entirely satisfactory, provided the product is maintained at pasteurization temperature during the process and the homogenizer is sufficiently large to empty the vat rapidly before thermophylic bacterial growth causes trouble. One of the most common causes of difficulties in Ice Cream is due to the mixing of returned pasteurized homogenized products with raw dairy products such as skimmed milk, in which case the lipase present in the skimmed milk will act upon the homogenized fat present, giving a bitter soaplike flavor characteristic of fat that has been subjected to the action of lipase. This problem can be eliminated by heating the raw prod-

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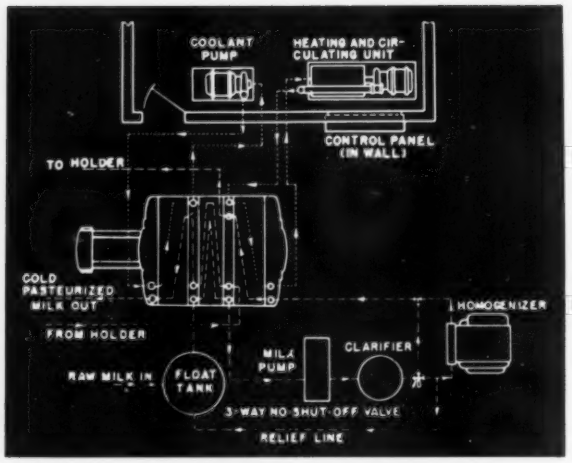

Fig. 1. Schematic drawing of a commonly used method of interconnecting an homogenizer with an H.T.S.T. system. The clarifier is connected for use on hot milk. Homogenizer must have smaller capacity than pasteurizer.

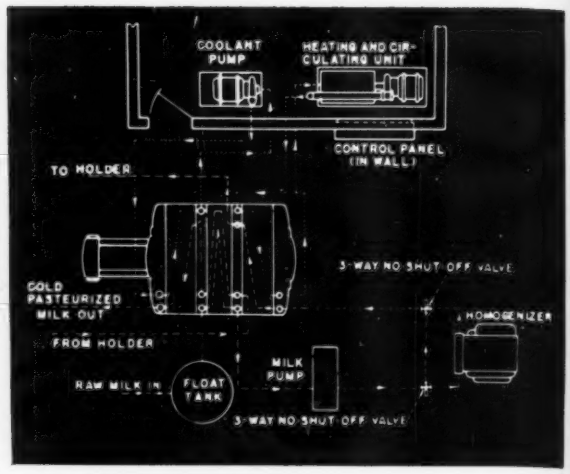

Fig. 2. Schematic drawing of a closed system used in inter-connecting an homogenizer with an H.T.S.T. system. With this arrangement, the homogenizer must be larger in capacity than the pasteurizer.

ucts to 125-135° before adding the homogenized fat. Where viscous products such as ice cream mix are being homogenized, it is usually necessary to add an additional strainer ahead of the regular strainer on homogenizers to remove any undissolved solids. In many cases a centrifugal pump can be used to advantage in forcing the product through the strainer to the homogenizer inlet. Where there is a question as to whether a centrifugal pump is necessary, this can be readily determined by installing a vacuum gauge at the inlet to the homogenizer. If this vacuum exceeds ten inches (10″) then the use of a centrifugal pump will reduce operational difficulties. Where an homogenizer is used to elevate milk or other products from a lower level, the fittings on the suction lines to the machine should be in good condition and properly gasketed to prevent air leaks. A rapid fluctuation of the homogenizer gauge is a good indication of air leaks in the product suction line.

While the microscope has been generally accepted as the means of evaluating the effectiveness of homogenization, this instrument, if not in the hands of skilled technicians, has definite limitations. From a practical standpoint the separation test, as provided in the U.S.P.H. Standard Milk Ordinance, is the best means of judging the efficiency of the homogenization of milk. This simple test provides an effective control measure which in most areas is the basis for the legal definition of homogenized milk. In ice cream mixes the condition of the freezer dasher following the day's run is one of the best means of judging the efficiency of homogenization, as the appearance of substantial amounts of butter on the dasher indicates improper homogenization. Homogenizing pressures, which are either too high or too low, or an homogenizer which is in poor condition, can be causes of excessive buttering on the freezer dasher. One of the most common causes of poor fat stability in homogenized ice cream mix is too high a temperature of homogenization or too long a holding period at high temperature.

Homogenizers with HTST Systems

Where homogenizers are operated as part of High Temperature Short Time Pasteurizer Systems they should be connected in a manner that will permit a rapid change from unhomogenized to homogenized milk without shutdown or excessive loss of milk. Any arrangement used must insure that only properly pasteurized homogenized milk will be delivered from the pasteurizer. The piping method used should permit the homogenizer to be disconnected and cleaned while the pasteurizer is still in use.

The schematic drawing shown in Fig. 1 gives one commonly used arrangement for hooking up an homogenizer to an HTST pasteurizer. The relief line should be elevated to give a positive head of approximately 2 feet on the homogenizer suction. This elevated relief line serves as an air vent for any air slugs which might otherwise cause trouble in the homogenizer. The homogenizer used in this arrangement must always have a capacity less than the pasteurizer so that a small amount of milk is relieved to the float tank. In most installations of this type, a variable speed milk pump is used with the pump locked at the maximum pasteurizer capacity. When operating with the homogenizer, the pump speed is reduced in speed until a very small stream of milk is returned to the float tank. Operation of the homogenizer without an overflow of milk will allow air to be drawn into the homogenizer suction and be incorporated in the milk.

Another HTST homogenizer arrangement incorporating certain advantages is shown in Fig. 2. This arrangement requires an homogenizer with a slightly greater capacity than the pasteurizer. A small amount of milk is recirculated through the loop around the homogenizer, thus insuring the homogenizer a full supply of milk at all times. With this arrangement, the normal drop-off in capacity of the HTST unit which accompanies pump wear is automatically compensated for while the absence of an open relief line makes air incorporation at the homogenizer impossible. Startup and shutdown is very easy as the homogenizer can be cut in and out of the system with the touch of the switch. The three-way valves allow the homogenizer to be isolated so that it can

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turns frozen or powdered products into a smooth ice cream rapidly

speeds up processing and clean-up

Three 500 gallon Pfaudler "Supermixers" at Fairmount Creamery Company, Omaha, Neb.

There are two things every buyer likes when he starts making mix in the new Pfaudler "Supermixer." (1) A smoother mix from frozen or powdered products, (2) faster processing and clean-up. It gives them the kind of performance they need in today's highly competitive market.

For example, powerful agitation coupled with excellent heat transfer permits the use of either frozen or powdered products in perfect safety. Products go into solution quickly. Blending is thorough and smooth. There is no lumpiness. The whole cycle of mixing and pasteurizing is speeded up. On discharge, mix is kept uniform in consistency by operating the agitator in low speed until the vat is empty.

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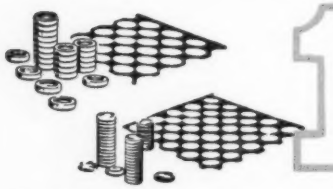
With Dacro P-38 you put milk on your trucks at lower cost per case—



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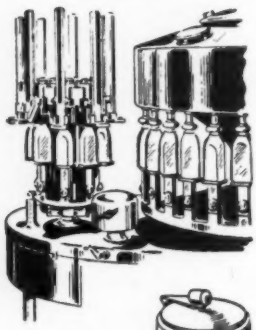
You save on cap cost because Dacro P-38 is smaller. It takes less material to make and sells at a lower price.



2

Dacro P-38's greater efficiency saves time and money in bottling. With its single capping, pre-formed caps and simple capping mechanism, capping is fast and trouble-free. There are few stops and practically no delays.

3

With stepped up bottling efficiency, other operations go faster, too. Time is saved in pasteurizing, bottle washing, cold room, loading, etc. These savings in time also add up to a big cut in operating costs.

A Dacro Representative will gladly show you how many dairies are saving money with Dacro P-38 on the basis of time studies made both before and after its installation. He will also show you how many dairies are using Dacro P-38 features to build profitable new sales. There is no obligation. Why not get the facts?

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The Dacro P-38 Cap is a great salesman, both for getting new business and for keeping old customers sold. Housewives like this cap because of its pleasing appearance... the way it covers the top of the bottle and protects the pouring lip. They also like the fact that it seals the bottle... keeps out refrigerator odors... preserves the flavor and freshness of milk. Dacro P-38 is handy to use. It is easily removed and snaps back just as easily to make a really dependable re-seal.

Many dairies in switching to Dacro P-38 have found that demonstrating these Dacro features is an easy way to win new customers and make all of their delivery routes more profitable.

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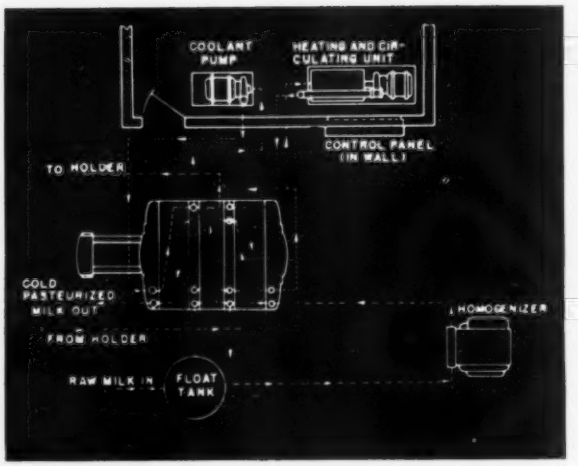


Fig. 3. This drawing shows an H.T.S.T. unit using an homogenizer as the metering pump for an H.T.S.T. system.

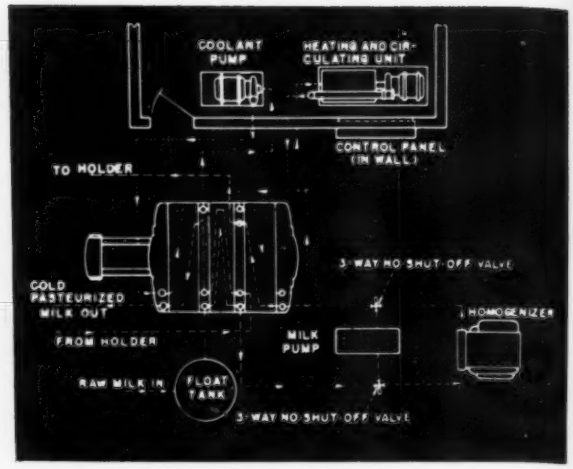


Fig. 4. Schematic drawing using either a standard positive pump or an homogenizer as the metering pump in an H.T.S.T. system.

be disconnected for cleanup while the pasteurizer is still in operation.

In many plants where the pasteurizer is used exclusively for homogenized milk, the homogenizer is used as the timing pump. Such an arrangement is shown in Fig. 3. Where this arrangement is used the homogenizer manufacturer should be contacted as certain homogenizer manufacturers do not recommend this application. The advantages of this system are the elimination of the extra piping and milk pump which must be cleaned and maintained. When both regular and homogenized milk are processed on the same machine, the timing pump can be connected as shown in Fig. 4 and used only when regular milk is being processed. Where this arrangement is used both the regular pump and the homogenizer must be timed and sealed by the Health Department.

When the arrangements shown in either Fig. 1, Fig. 3 or Fig. 4 are used, it is necessary to interconnect the homogenizer starter with the milk pump stop which is part of the Thermol-limit-recorder controller. Any wiring arrangement must remove power from the homogenizer when the milk is under legal temperature (160° F.) and the flow diversion valve is not in a diverted flow position. The purpose of this requirement is to prevent the forcing of unpasteurized milk through the unit when the flow diversion valve is not in diverted flow position and the milk is below legal temperature. With larger homogenizers a time delay switch is necessary to prevent stopping the homogenizer during the time interval required for the flow diversion valve to travel from diverted to forward flow.

In many areas, the milk is homogenized as it leaves the heater section and enters the holder tube. Many plants claim improved results due to the higher homogenization temperature (160° or above) when milk is processed at the outlet of the heater. The hookup shown in either Fig. 1 or 2 can be adapted to take the milk from the outlet of the heater and return it to the inlet of the holder tube.

One of the most frequent causes of trouble encountered in homogenized milk processed through an HTST pasteurizer is air in the milk after it is bottled. This air is in the form of minute bubbles which cannot readily be detected. After the milk is bottled, the air rises and leaves the bottles underfilled.

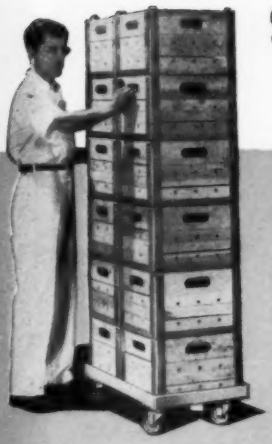
The principal cause of air in bottled homogenized milk is air incorporated in the milk before it enters the pasteurizer. This trouble is particularly prevalent when the milk is received only a short time prior to pasteurization and air incorporated during the hauling and dumping operation does not have a chance to escape in the holding tank. This source of trouble can be isolated by comparing the volume of milk in a bottle filled from the raw milk in the float tank and a bottle of the pasteurized milk after they have been allowed to stand for several hours. If the volumes of the two samples are equal, the trouble is due to air incoporated in the milk before pasteurization.

If the raw milk does not contain an appreciable amount of air, the air in the bottled milk may be due to leaks in the raw milk side of the regenerator or adjacent piping where the milk is under a vacuum. Proper maintenance of the gaskets in the plate unit and careful assembly and proper gasketing of the piping will do much to eliminate this source of trouble. If the vacuum through the raw side of the regenerator is above 12", it is almost an impossible job to eliminate air leaks. The vacuum of the regenerator can be lowered by proper engineering changes which the manufacturer can work out for you.

Maintenance

The homogenizing valves, breaker rings, and retainers are the heart of the homogenizer and must be in good condition if the homogenizer is to do an effective job. The manufacturers' recommendations regarding servicing of these parts should be followed. Many other parts of the homogenizer are almost equally important insofar as good homogenizer efficiency is concerned. The most frequently neglected parts are the suction and discharge valves which should be lapped in regularly to insure proper seating. If these valves become damaged through mishandling, they should be replaced and valve seats which are in poor condition should be serviced in

(Please turn to Page 69)



Save time in loading and unloading trucks with

ROLL-EASY
CASE DOLLIES
"The Finest"

They pay for themselves—
They cut handling costs—
They replace conveyors

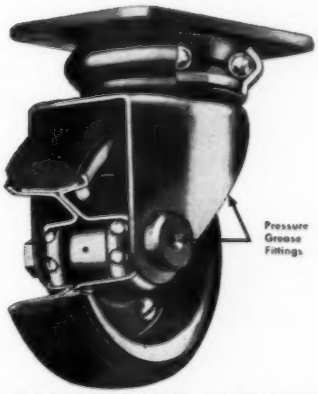
CADMIUM PLATED • LOW COST • LONG LASTING

MORE than 20,000 leading dairies have increased handling speed and reduced costs with Haynes Roll-Easy Case Dollies.

Roll-Easy Dollies are sturdily constructed, with heavy all-steel frames mounted on "Roll-Easy" Casters. The entire dolly, including casters, is fully cadmium plated. There is practically no wear-out to a Roll-Easy. Roll-Easy Casters are not just ordinary casters. They are casters that meet the exacting conditions of milk plant service—excess moisture—heat—cold—milk acid—caustics—under varying floor conditions and heavy loads.

5 STOCK SIZES • SPECIAL SIZES TO ORDER

Stocked and sold by all leading dairy supply houses



THE ONLY CASE DOLLIES
with the famous "ROLL-EASY" CASTERS.
BALL BEARING WHEEL AND SWIVEL
PRESSURE LUBRICATED . . CADMIUM PLATED . . REPLACEABLE RUBBER TIRE

THE HAYNES MANUFACTURING CO.
709 WOODLAND AVENUE • CLEVELAND, OHIO

The milk industry has everybody as a customer at one time or another. Unfortunately many of these customers are lost as they

mature. Why not, says Dr. Trout, give them milk with superior beverage qualities, such as homogenized milk, and hold them.

MAKE THAT HOMOGENIZER PAY OFF

By G. M. TROUT

Michigan State College
East Lansing, Michigan

Exclusive feature

Some milk distributors fail to get the most benefit out of homogenizing milk while others seem to glory in the process and play it toward a most successful enterprise. Why the difference? Why is one operator unsuccessful or only moderately so in processing homogenized milk while the rank and file of milk distributors throughout the country have acclaimed the process as one which is probably second in importance only to pasteurization in contributing to improvement of average milk? Can it be that the answer lies in the negative attitude of the individual, to the unwillingness on the part of some to learn of the process and its benefits, or to a certain amount of "feet-bracing" toward progress itself?

Why Homogenized Milk?

Successful homogenized milk distributors have much in common. They recognized that homogenized milk is more than merely milk with the fat globules broken up, that it is a product potentially alive with new problems which must be recognized and remedied. They believe in the future of the product and go all out to acquaint their customers with its merits. They realize that homogenized milk has many advantages and center their attention on them while, at the same time tolerating, but not overlooking, its disadvantages.

On the other hand, skeptics ask the question, "Why should I homogenize milk?" A good question worthy of an honest answer. If the following reasons do not fit their cases then they should *not* consider homogenization for the process itself cannot be accomplished without some expense and why add unnecessarily to the costs of processing milk if one is not genuinely interested in the process. Successful distributors of homogenized milk homogenize in order to

(1) meet competition
(2) satisfy customer demands
(3) improve the beverage quality of the milk
(4) keep abreast of the milk business
(5) increase sales both of milk and cream
(6) eliminate complaints on cream layer, poor color and cream plug
(7) reduce oxidized flavor complaints in every-other-day or in three-times-a-week delivery
(8) sell for a higher profit, particularly when the milk is enriched by added vitamin D
(9) have something new to advertise.

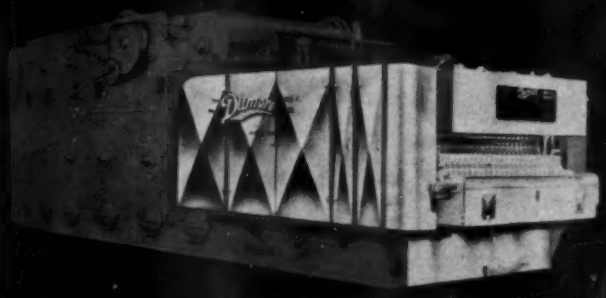
Where Are The Advantages?

In the early days of unsuccessful introduction of homogenized milk, many extravagant claims were made for the product. In fact, some claims not supported by experimental evidence may be noted even today. There are many advantages of homogenized milk both to the distributor and to the consumer. The three chief general advantages are

(1) uniformity of fat distribution throughout the milk
(2) improved beverage quality

Sealtest
DAIRY PRODUCTS

USE Dumore
EQUIPMENT



USED THE WORLD OVER
MEYER
Dumore
BOTTLING EQUIPMENT

GEO. J. MEYER MANUFACTURING CO.
CUDAHY, WISCONSIN • U. S. A.

(3) reduced hardness of the curd.

The uniformity of fat distribution is especially important when the fat bearing vitamins assume great significance as they do from infant feeding through adolescence. In homogenized milk whoever drinks the milk gets the full share of the vitamins and fat. There is no skimming off the cream and with it the vitamins A and D for coffee, leaving the less rich milk for others. This advantage in itself should justify the process.

Superior Beverage Quality

Perhaps the greatest advantage of homogenized milk is its superior beverage quality. Consumers seem to recognize this quality ahead of the processors. Once children drink homogenized milk there is less of a milk drinking problem with them. Many would drink no other. They demand it. Milk distributors are asking themselves today "what does it take to sell milk?" One of the answers to that question is to save the customers rather than trying to coerce them back during adolescence after they have lost them. The milk industry has every customer at one time in their lives but often loses many of them by one means or another. *People drink milk because they like it.* So why not give them milk wth superior beverage qualities—homogenized milk. Kids take to it naturally. The difference in beverage quality between non-homogenized and homogenized milk is not shown appreciably when the milk is first processed; the superior beverage quality of homogenized milk begins to show up twenty-four hours after processing when consumers first have access to it. Often after seventy-two hours or even beyond a week when some of the milk delivered may remain in the home refrigeratar, the beverage quality is still surprisingly good. By beverage quality is meant not only the taste, but smoothness, freedom from cream clots and buttery chunks, and appetizing appearance as well. Cream clots floating on a glass of milk are particularly nauseating to children. At first they get fussy about drinking such milk, then by means of colored straws, assorted flavors, colors, and so on we extend milk drinking a few years until at last they finally balk. Then their milk drinking days are over for fifty years or more, until oncoming old age reminds them of the health-giving qualities of milk.

ON THE ROUTE

Ewald Bros. Dairy, Minneapolis, Minn., is using a sunny character, named "SUNNY JIM" in all of its newspaper advertising.

Each advertisement usually begins with a headline like this, *On the Route with Sunny Jim—"The Golden Guernsey Kid."*

Part of a recent ad said that Sunny Jim supported the local Community Chest Drive. Farther on the copy stated, "Here's a thought for today that I think is pretty good. 'Some people have to have an awful lot of money before they begin to realize that the best things in life are free.' . . . "

Homogenization "fixes" the flavor of milk against copper-induced oxidation. There is no cappy, cardboardy, papery flavor development in homogenized milk as a result of contact with copper. Neither does homogenized milk become old or stale upon proper normal-length storage. It is, however, more susceptible to light-induced oxidation than creamline milk, yielding the sunshine flavor. Actually this susceptibility has the advantage of forcing the distributor to keep the milk out of light, to acquaint the customer with the product, and to handle it in delivery as a choice food worthy of special care.

There is nothing wrong with good cream-line milk when it is properly produced and handled, but much of the city household milk today is several days removed from production at the time of consumption. The fat globules pack more tightly upon prolonged storage and should partial churning occur in processing, a thick, leathery non-miscible cream layer forms. Such milk in a glass is not especially appetizing. Here the effects of homogenization shows up. The glass of homogenized milk is smooth, uniform in color and body and even the empty, soiled glass is not greasy.

The soft-curd character of homogenized milk seems to be an advantage, but it has been overplayed. It is an attention-getting factor. True enough, proper homogenization does render hard-curd milk soft curd, but the extravagant claims that homogenized, solft-curd milk is more digestible is little more than libelous and an indictment against milk itself. Extensive studies have shown that homogenized milk is soft-curd, that it passes through the stomach more readily than hard-curd milk, but that its completeness of digestion is not increased appreciably, if at all, by the process. A few people such as infants, invalids and special cases do need soft-curd milk but there is no evidence that the rank and file of adults need it. Advantageous as the soft-curd character is, its exploitation should be minimized and only to those who need it. The distributor should keep in mind that the two chief advantages of homogenized milk are (a) homogeneity and (b) palatability.

Advising The Consumer

What should the distributors tell his customers about homogenized milk? Tell them the whole story of homogenized milk. Regular sound information to them through good advertising will bring about improved public relations, which the dairy industry cannot afford to overlook. Tell them simply, conscientiously, and truthfully that beyond pasteurization nothing has been added to or taken away from the milk. If standardization is practiced tell them that to assure uniformity of fat throughout the year that the fat of the milk has been standardized to 3.5, 3.7 or 4.0 percent. Assure them that the fat is there and can be seen in the rich appearance of the milk—not by a cream layer. Impress them with the fact that one and a quarter tons pressure per square inch have been applied to disperse the fat or cream uniformity and permanently throughout the serum—that bluish portion under the cream layer of non-homogenized milk. Tell them that the equipment necessary to accomplish this is massive, expensive, requiring great power, but, as their milk-man, you welcome the opportunity to make available homogenized milk—homogenization being the most progressive step in improving the beverage quality of household milk since the adoption of pasteurization.

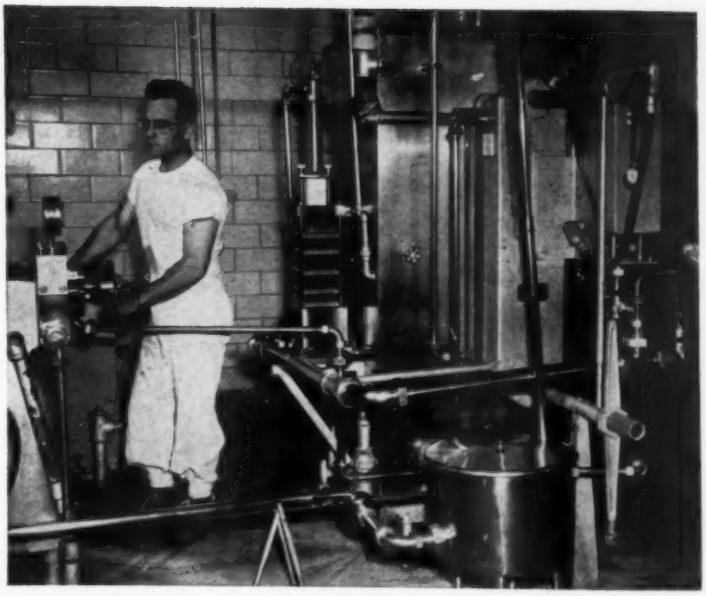
XUM

"VOLUME UP 300% IN 3½ YEARS

...and no letdown... WITH "Electro-Pure" and Pure-Pak" Says

IDEAL DAIRY

Traverse City, Mich.

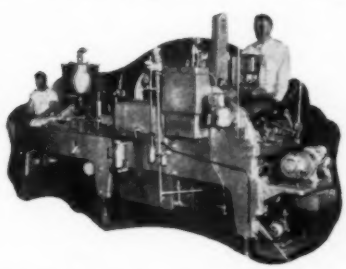


Above: Bob Kromer, one of the two men who operate both Electro-Pure and Pure-Pak machines for Ideal Dairy in Traverse City, Michigan, is shown adjusting the homogenizer hooked up with Ideal's Model 40 Electro-Pure all-electric, short-time pasteurizer. Model 40 has a capacity of 4,000 pounds per hour.

Here's a dairy nearly 60 years old that increased its business threefold after changing over to Electro-Pure in combination with Pure-Pak packaging. "Since our modern, dual installation," state the brothers Fiebing, Ray and Charles, owners of Ideal Dairy, "our volume has increased three times and our delivery service extended from a twenty-mile to a fifty-mile radius. Also, with our Electro-Pure pasteurizer and Midget Pure-Pak, no interruption in production has lasted longer than two hours." Ideal Dairy uses 14 trucks to serve four house-to-house routes and ten wholesale routes—with a large line of dairy products, 100% Electro-Pure pasteurized and all packaged in Pure-Pak containers.

"Good Morning, Mrs. America," in Traverse City, a famous Michigan year-'round resort. It's a "golden" occasion for smiling Celia Purkiss, left, as co-owner Ray Fiebing of Ideal Dairy thanks her for 50 years continuous use of this 60-year-old dairy's products.

Right: Ideal Dairy's Pure-Pak Midget Model E, with Bob Kromer, left, packing; and operator John McCloskey on the platform.



7 ELECTRO-PURE PASTEURIZERS

An all-electric, short-time pasteurizer for every size and type of dairy. Capacities, 2,000 pounds to 10,000 pounds per hour. Precision built by Ex-Cell-O. Write for complete information.

Mail THIS COUPON TODAY ➡

Pure-Pak Division
EX-CELL-O CORPORATION
DETROIT 32

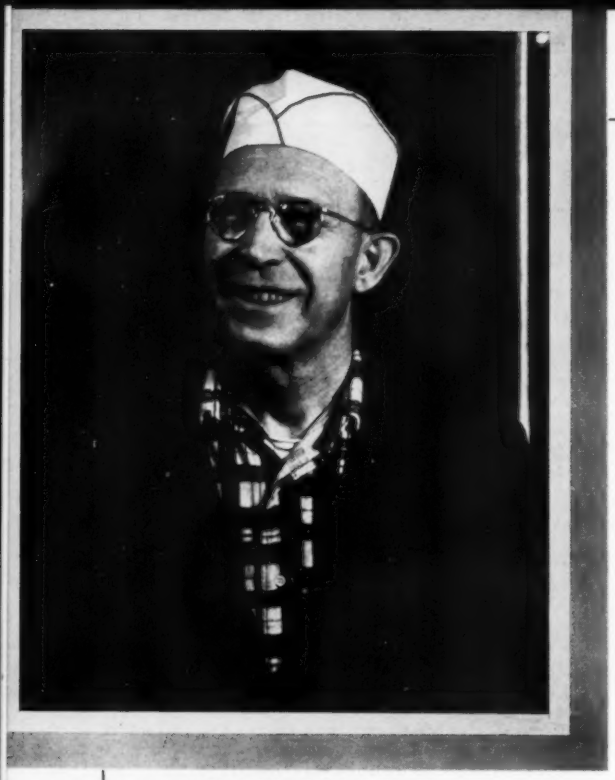
Pure-Pak Division — Ex-Cell-O Corporation . . . Detroit 32, Mich.

Please send information on Electro-Pure All-Electric, Short-Time Pasteurizer.

- ☐ Model 20—2,000 lbs. per hour
- ☐ Model 30—3,000 lbs. per hour
- ☐ Model 40—4,000 lbs. per hour
- ☐ Model 60—6,000 lbs. per hour
- ☐ Model 75—7,500 lbs. per hour
- ☐ Model 85—8,500 lbs. per hour
- ☐ Model 100—10,000 lbs. per hour

NAME

CITY ZONE STATE AMR



CLAYTON W. CLARK

Portrait of a Dairyman

THE CONNECTICUT countryside around Danbury is strewn with such picturesque names as Powder Horn Hill and Whipstick Road. There is Drum Hill and Skunk Lane, Nod Road and Peaceable Street. Some of the names have been dreamed up by wealthy outlanders in the interest of "rural quaintness." Most of them were given when the state was a colony and date back to the seventeenth century. They are as much a part of Connecticut as stone walls, and mechanical ingenuity.

Clayton W. Clark, plant superintendent at Marcus Dairy in Danbury, is also a part of Connecticut. Not the Connecticut of the summer visitors from New York, or the swank commuter settlements that are strung out along the New Haven Railroad, but the Connecticut that sent ships to the ends of the seven seas, that furnished beef for the relief of Colonial troops at Valley Forge, that built universities and spawned "the greatest show on earth." The Connecticut that manufactures everything from machetes to airplane engines, from clocks to machine guns. The solid, practical, visionary, energetic Connecticut, that is the one to which Clayt Clark belongs, the one that he has helped to build. For he comes of a race of giants. He is a Connecticut Yankee.

Mr. Clark broke into the milk business as a boy. His grandfather operated a route in Norwich Town in the days when the routeman was armed with a ten quart can and two measures. Mr. Clark recalls how the customers left their receptacles on the door step. His job as his grandfather's helper was to measure out the proper amount of milk, put it in the kettle, pick-up the tickets, and go on to the next customer.

His first real job in a dairy plant was with the old New England Dry Milk Company back in 1919. This concern was headed up by Dwight Beebe, now associated with a cooperative enterprise in Vermont.

There were a number of other stops along the way, New Haven Dairy, the Danbury Creamery, Rider's Dairy and finally Marcus Dairy. There wasn't much time for formal training in the dairy schools. Most of Mr. Clark's education was gained in the plant. There were, however, opportunities afforded by the short courses offered at what was then Connecticut

(Continued on Page 71)

THERE'S "KNOW" BUSINESS IN "SHOW" BUSINESS

They **KNOW** *it. if YOU* **SHOW** *it*

WE ARE NOT THIS GOOD...

. . . we haven't mastered the mysteries of the Hindu rope trick, but, through 33 years' experience, we have mastered the secrets and techniques of producing higher quality, returnable glass containers that assure durability, returnability and sales ability!

Liberty's engineers, craftsmen and supervisors are skilled specialists, trained for a particular job. This skilled workmanship, plus modern production techniques, carefully-selected raw materials and Control Laboratory testing, make Liberty — "Your Best Bottle Buy!"

ONLY THE GLASS CONTAINER PERMITS PRODUCT INSPECTION AFTER SEALING

FLAME-POLISH *with* LUSTRO-COLOR

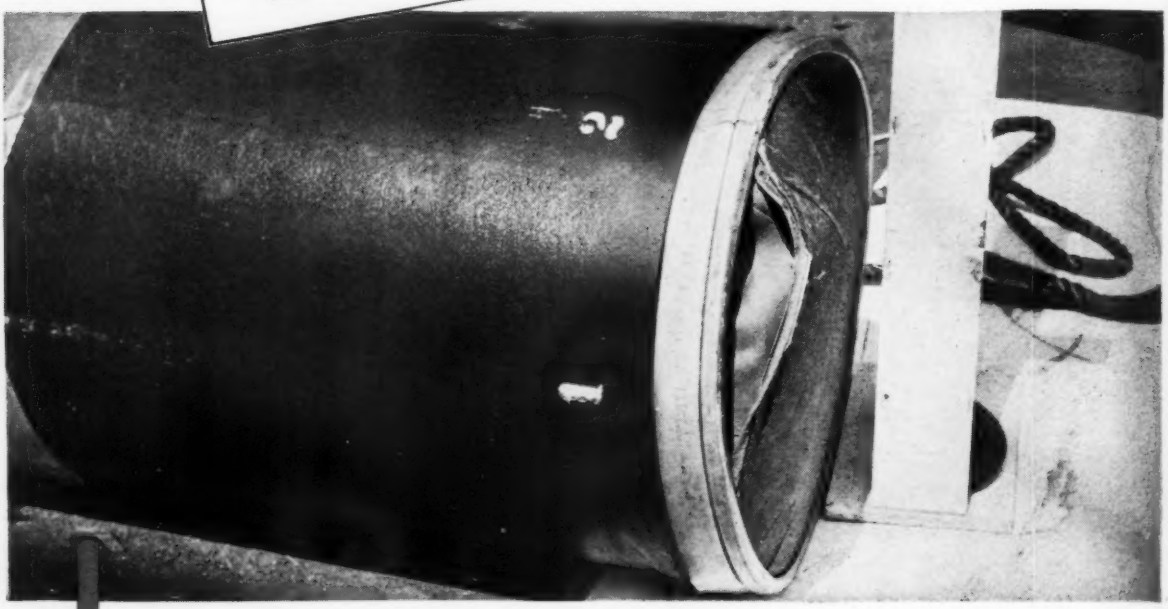
SPECIALIZING IN *Returnable* GLASS CONTAINERS SINCE 1918

Liberty Glass Company

SAPULPA OKLAHOMA

After testing every known

it's VISQUEEN*



A close-up of an FPEB drum-package dropped twice from a height of two feet on its bottom chime, at an angle of approximately 45 degrees. Although the fibre bottom pulled out of the metal chime, the envelope —made of VISQUEEN—did not leak.

Development of the Rohm & Haas FPEB drum-package introduces an entirely new concept into liquid shipping. Basically the FPEB drum-package is a specially constructed fiber drum with a separate VISQUEEN liner and a "boot," thoroughly tested to be satisfactory under normal handling abuse, 50 to 75% lighter than alternative containers.

It's another of the jobs that VISQUEEN *film does best!*

HERE'S WHY: VISQUEEN film has exceptionally high tensile strength and tear resistance . . . yet always remains flexible and uniform. Clear, odorless, tasteless and impervious—VISQUEEN is chemically inert, unaffected by acids or alkalis.

Regardless of what YOU ship (liquids, semi-liquids or solids) or where YOU ship, or how YOU ship (in fibre drums, cartons or metal containers) . . . it's almost certain that VISQUEEN film liners will save you money, save you time and save you handling!

*T. M. VISKING CORPORATION †FPEB is the designation for Rohm & Haas' Visqueen-lined drum package with boot.

XUM

competitive polyethylene film . . .

liners for Rohm & Haas' revolutionary FPEB† drum-package!

VISQUEEN envelope and VISQUEEN sealing disc are photographed with the other component parts of the FPEB drum package. The assembled unit—effected by mandrelling—has been proved capable of carrying 400 lbs. of liquids successfully under all kinds of normal handling abuse.

Ready for filling with 400 lbs. of nonflammable, noncorrosive liquid is this completely assembled FPEB drum-package. Note how the VISQUEEN envelope overlays the top chime of the drum. Complete product protection is provided by the top sealing disc, which is also made of VISQUEEN.

VISQUEEN film is all polyethylene, but all polyethylene film is not VISQUEEN. VISQUEEN is the only film produced by the process covered by U. S. Patent No. 2461975. Only VISQUEEN film has the benefit of the research and extensive technical experience of The Visking Corporation, pioneers in the development of polyethylene film. Be sure. Always specify VISQUEEN film for superior tear and tensile strength and greater uniformity.

VISQUEEN FILM . . . A PRODUCT OF THE

VISKING CORPORATION

PRESTON DIVISION • TERRE HAUTE, INDIANA

In Canada, Visking Limited, Lindsay, Ontario

Let's Talk Accounting

By JIM KLUGER

A NUMBER of questions have been asked of me about some problem or other on federal income taxes. Next month is the deadline for filing most returns, so the column this month will attempt to answer some of those questions and touch upon other pertinent points. As this is being written, congress is mulling over another tax bill which, in its final form, will probably be retroactive in part, at least, to July 1, 1950. In these notes, therefore, we will not discuss rates of income tax nor the impending excess profits tax, only some general principles.

Most of the questions asked have to do with deductions, which is understandable. With some exceptions, most ordinary income, such as salaries, interest, dividends, net profits, is fully taxable. Most of the disputes between taxpayers and the Bureau are on the score of deductions: are they proper in the first place, and have they been taken at the right time in the second place. The Bureau will always try to make sure that you don't take deductions you're not entitled to, but they understandably won't kill themselves trying to figure out if you took all you could have. That's up to you.

The dairy industry is like any other in that products are acquired in order to be sold at a profit if possible. The industry is somewhat peculiar, however, in that a very sizeable capital investment is required per unit of product — a much larger investment, for example, than that required by a corner grocery store doing about the same dollar volume. Another peculiarity is the relative lack of importance of inventories, as compared to the grocery store. These two points involve some touchy tax questions. The investment in equipment, plant, trucks, machinery, may be deducted as an expense only through depreciation, that is, by deducting a portion of the cost each year until all has been deducted. That sounds simple, until you bump up against the tax examiner. It seems, unfortunately, that the *time* element comes in. Only current year's depreciation is allowable. If you had estimated, for example, that your trucks would last six years and you have depreciated them for two years on that basis, you cannot claim any prior years' allowable depreciation if you subsequently find the trucks will last only four or five years. Each year, your assets must be reduced by depreciation allowed or *allowable* in former periods. This is important to remember, for even the smallest dairies have considerable investments in depreciable assets, and cannot afford to lose any tax benefits. The thing to do is make sure, as nearly as possible, that your depreciation rates do reflect the actual life of equipment.

Jim Kluger, specialist in dairy accounting, conducts his exclusive column in the "American Milk Review" each month. If you have an accounting problem or simply an accounting question write to Mr. Kluger at Kapleau, Kluger & Company, 1414 South Penn Square, Philadelphia, Pa. He'll do his best to give you the straight dope.

The point on inventories is the proper valuation for tax purposes. Products in a milk plant don't hang around very long as a rule. Milk is bottled one day and sold the next. At 12 P.M. December 31st, therefore, you will have had on hand in your coolers the next day's sales — all bottled, capped, and cased. Many dealers as a matter of practice (and it's a good practice) value those inventories at market (selling price). For tax purposes, however, this anticipates the profit, and raises the tax. It's better to price inventory at cost, and keep the tax down. But you must be consistent year to year. If the price drops on January 1, you may price your inventory at cost *or* market, whichever is lower.

Another fighting term is bad debts. The Bureau recognizes two methods of bad debt accounting: the reserve method and the actual charge off method. The reserve method, whereby a certain portion of sales is estimated to be uncollectible, is by far the better for the milk industry, as it is for any industry which carries a large volume of small accounts receivable. The great danger of the actual charge off method again is in the *timing*. It's hard to tell exactly when a debt became no good, but that determination must be made under the charge off method. If you think an account became worthless in

Kills germs all along the line

Wyandotte STERI-CHLOR

FROM receiving vat to the end of the line, Steri-Chlor* keeps killing germs! It's effective at high or low temperatures. And yet it's safe for aluminum, stainless steel, tin, copper, monel metal and wood!

Wyandotte Steri-Chlor comes to you in dry powder form, can be stored indefinitely without losing its germicidal strength. To use Steri-Chlor you dissolve it — easily — even in cold water. Notice that it makes a clear solution. That's important, for it shows that Steri-Chlor contains no precipitate to cling to equipment surfaces. Still not convinced? Ask your Wyandotte Representative or Supplier to show you the "razor blade test."

*Reg. U. S. Pat. Off.

- *Used after cleaning*
- *Destroys bacteria, yeast, mold*
- *Comes in dry, powdered form*
- *Doesn't lose chlorine in dry form*
- *Dissolves easily even in cold water*
- *Makes a clear solution*
- *Will not bleach*
- *Will not corrode equipment*

"Cleaning the World"

THE WYANDOTTE LINE—*plant and equipment cleaners:* Kelvar, G.L.X., Poma, SR-10, Detergent; ***detergent-sanitizers:*** Kromet, Tri-Bac; ***germicides:*** Steri-Chlor, Spartec; ***can washers:*** Kanwash, C.W., Keego, G.L.X., SR-10; ***bottle water conditioners:*** Keego, B.W.C., G.L.X.; ***acidity standardizers:*** C.A.S., Star 5X; ***bottle-washing alkalies:*** Seneca Flakes, Chippewa Flakes, C.C.S., 721 Special, Star 5X, Flake Industrial Alkali — **in fact, specialized products for every cleaning need.**

WYANDOTTE CHEMICALS CORPORATION
WYANDOTTE, MICHIGAN

SERVICE REPRESENTATIVES IN 88 CITIES

Wyandotte
REG. U. S. PAT. OFF.

XUM

1950 and write it off then, the Bureau may disagree, and say it became bad in 1949, and so not allow it in 1950, nor in 1949 either as you didn't claim it then. As with underestimated depreciation, you lose. It is much better to use the reserve method. It's better accounting practice, and you're much more likely to get all you are entitled to get.

Abandoned Machinery

As a general rule, all expenses of doing business are deductible. In connection with this, remember that casualty losses are deductible to the extent not compensated for by insurance. An item often overlooked, or not treated properly, is abandoned machinery. This is deductible, but *timing* is important, and it's often difficult to prove actual abandonment. As a rule, it is better to sell abandoned machinery for junk, or, at least, scrap it. While on the subject of depreciable business assets, remember that equipment traded in on new equipment can serve to increase or decrease the depreciable base for the new equipment. If the trade in allowance is greater than the book value of the old equipment, the depreciable base of the new equipment is decreased. Conversely, if there is a loss on the trade in, the base of the new equipment is increased. The gain or loss, as such, is not recognized. Sometimes you may be faced with a choice between trading in or selling a piece of old equipment. If sold at a gain, a taxable gain results which, if the equipment was held more than six months, will be taxed at an effective rate of not more than 25%. If sold at a loss, and the equipment was held for more than six months, the loss may be applied to gains on other capital assets, and the net gain taxed at not more than 25%. If the loss exceeds the gains, the difference is deductible as an ordinary loss. When faced with the choice between selling and trading-in, therefore, take these factors into consideration, and choose the method which will result in the greatest tax saving.

Some other expenses often overlooked are those attendant on using non-business assets for business purposes. For instance, pleasure automobiles used partially for business purposes give rise to a tax deduction for the portion of the expense (including depreciation) ascribable to business use. Often, in small dairies, the owner's home is used as an office. A portion of rent or depreciation, light, heat, etc., becomes a deductible expense. In reporting such deductions from gross income, remember to do just that. Show them as deductions from *gross income*. This reduces adjusted gross income, thus reducing the base (5% of adjusted gross income) for claiming a deduction for medical expenses. Conversely, it reduces the maximum allowance for charitable contributions.

Don't overlook the net operating loss carry over and carry back. The rules for computing carry over and carry back are somewhat too involved to treat of here, but, in essence, the law provides for applying operating losses in one or more years against profits in prior or subsequent years. Thus, a net operating loss in 1949 may be carried back to 1947 and 1948, and carried forward to 1950 and 1951. A loss in 1950 may be carried back to 1949 and forward to 1951, 1952, 1953, 1954, 1955.

Definition of Repairs

Many arguments between the Bureau and taxpayers arise out of the definition of repairs. It is axiomatic that *repairs* to income producing property or property held for business uses are deductible, while *improvements* must be capitalized and the cost recovered through depreciation. Quite often, extensive repairs and improvements are made at the same time. Where such repairs are merely part of an overall plan of improvement, it is likely that the Bureau will hold the entire expenditure to be a capital expenditure. To avoid question as much as possible, it is wise *not* to undertake extensive repairs at the same time as improvements, or, if it must be, be sure to keep detailed records of the exact portion of the expenditure which is actually repairs as distinguished from improvements.

As a final hint, remember, you're on your own. You've got to be prepared to explain. In effect, you're guilty unless you prove yourself innocent. Thus, point one to remember is: keep accurate records. If your books clearly and accurately reflect all your transactions, it is easier to prepare your return. If you keep accurate and honest accounts, no one is going to charge you with attempted tax evasion. Point two: remember that tax avoidance and tax evasion are two radically different things. You're entitled not to overlook a single thing in your favor. If you can in any way arrange any transaction to result in the greatest tax benefit to yourself, no one can call you down for it. Claim *all* your allowable exclusions from gross income, deductions, and exemptions. Before you make your return, find out the exact income tax effect of each item in your records. And after your return is filed, watch for changes and interpretations that may bring about opportunities for refunds of taxes already paid.

PLUG COTTAGE CHEESE CONTAINERS

Colorful containers with the "Golden Iridescent" tumbler designed as a table or shelf piece for the homemaker's kitchen or dining room will be utilized for cottage cheese promotion during the 1951 season by G. P. Gundlach & Company, Cincinnati, nationally known pioneering marketing consultants to the dairy industry.

Gundlach has given a preliminary announcement that in addition to the "Golden Iridescent" tumbler, so designated because of the gold-hued color of the glass container, there will be a variety of sized containers for the cheese in capacities from a 9-ounce 'golden goblet' up through a deep dish format with 12 ounce-capacity, a Kitchen-Fountain - Soda glass of 15 ounces and a bowl-type container with 16 ounce capacity.

Included in the Gundlach home-"re-use" containers will be a deep dish with 12-ounce size and the "Golden Iridescent" tumbler of 15 ounces.

The Gundlach cottage cheese container will be exclusively promoted by the sponsoring organization, but arrangements are being made to "franchise" use to cottage cheese makers, distributors and vendors throughout the nation.

Why we Advertise regularly in the American Milk Review

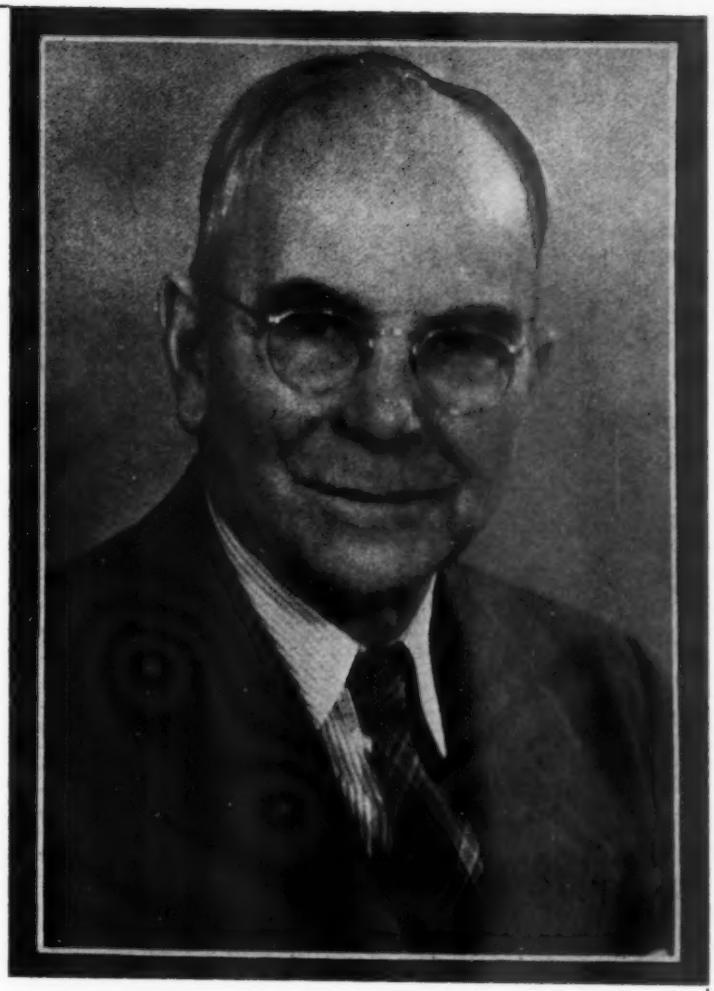
"Because you and we are both pioneers. You in the field of trade journalism, and we in the field of Chocolate flavor powder for dairies. We are desirous of getting our story before established firms in the dairy trade.

"Because we are celebrating our fiftieth year in the chocolate industry, and want every dairyman to know about it.

"Because the AMERICAN MILK REVIEW we feel, caters only to high grade advertisers, and we believe a product, as well as a person, is judged by the company it keeps.

"So when advertising in the AMERICAN MILK REVIEW it gives you a feeling of comradeship. Incidentally, our business has increased substantially since we started advertising in the REVIEW."

BENJAMIN P. FORBES
President
The Benjamin P. Forbes Company



AMERICAN MILK REVIEW . . . CERTIFIED CIRCULATION OVER 16,000 MILK PLANTS, OWNERS, EXECUTIVES, PURCHASING AGENTS AND PLANT SUPERINTENDENTS . . .

American MILK REVIEW

XUM

SALES and SALESMEN

A Page for Sales Managers

Cheese - Means To An End

By C. W. ESMOND

G. P. Gunlach & Co.

THERE ARE still a few milk distributors who prefer not to have anything to do with cottage cheese if they can help it. However, the number is rapidly diminishing.

For those who take cottage cheese seriously have found that it leads to two profits. First, there is the direct profit from turning skim milk into a tasty meat replacement food. Second, the promotion of cottage cheese sales produces a vast number of sales calls that otherwise would not have been made. And these calls not only yield cottage cheese sales but also sales of milk and cream and buttermilk.

"Sell cheese and you sell all" is the way some dairymen put it.

What are the essentials of a good cottage cheese promotion?

Incidentally, the mere promotion of cottage cheese for Lenten use is fast becoming a tradition. The trend is to promote it most strongly *after* Lent, when the spontaneous Lenten demand has diminished and while there is a sufficient supply of skim milk available.

Put Out a Uniformly Excellent Product

Successful promotion divides naturally into two management phases. The first of these is getting the product ready to sell.

This involves producing uniformly excellent cheese of a type that is popular. Some markets, for example, prefer the large curd type; others the small curd type or country style. The important thing is not the size of the granules but rather *excellent flavor* in the product itself, plus good "shelf life" or keeping quality.

Supplying a specially flavored product for delivery one or two days a week gives a vast impetus to selling.

Once-a-Week Flavored Specials Highly Stimulating to Sales

It provides the milk salesman something very special to talk about; something which enables him to secure standing orders from scores and even hundreds of customers, for the delivery of at least one package a week for a period of three or six or more successive weeks.

Popular variations include Spring Salad, Chive, Pimiento, Pineapple and others. These are usually sold on order only. So there are no returns. Salesmen report their requirements in advance. The production department prepares just the right quantity of each "special" to take care of the needs for, let us say, Thursday and Friday deliveries.

The flavored cheese is offered as a once-a-week special at the same price as unflavored cheese. As a matter of fact, except for the labor of mixing the flavoring ingredients, the flavored specials cost little if any more than the unflavored cheese. The added ingredients displace a corresponding quantity of cheese. There is usually little difference between the cost of the ingredients and the cost of the cheese replaced.

Another phase of getting the product ready to sell is in the occasional use of special re-use containers such as goblets, tumblers, refrigerator dishes, bowls, etc. The re-use container which the housewife obtains at low cost makes it easy for the salesman to interest people and again stimulates him to make a lot of calls.

Both feature flavors and re-use containers are in reality sampling devices. The customer pays for the samples. The samples develop a taste for the product and demand can be maintained and built up by continuous suggestive selling.

Sustained suggestive selling is accomplished by the systematic use of literature with recipes; by point-of-sale reminders such as truck pictorials and store pictorials and, most of all, by verbal suggestive selling on the part of the milkman.

Selling Incentives for Milk Salesmen

The promotion of feature flavors of cottage cheese particularly stimulates the housewife to think up original cottage cheese combinations of her own —combinations that include vegetables, fruits, nuts for example. The wide field of opportunity offered by cottage cheese for various flavor combinations, plus its high value as a meat replacement, are powerful selling influences for the milk salesman to use.

We are now in the selling phase of the cottage cheese promotion project,

(Please turn to Page 70)

"The bonds we bought for our country's defense are helping our boy become a doctor!"

HOW U. S. SAVINGS BONDS ARE PAYING OFF FOR JOHN AND HELEN DALY OF STOCKTON, CALIFORNIA

John and Helen Daly are proud of their son, James. "Jim always wanted to be a doctor," says Helen, "and now he's getting his chance to study medicine, thanks to our U. S. Savings Bonds and the wonderful Payroll Savings Plan!"

"Jimmy was only 13 when John and I decided to make U. S. Savings Bonds a part of our plan for his future. I signed up then for the Payroll Savings Plan in the Stockton Naval Supply Annex where I work."

"We've saved $3,550, now. John has his phonograph business so I'm able to put more than 25% of my salary into Payroll Savings. I buy a $100 bond each month which goes toward paying for Jim's education."

"Jim's at the University of Santa Clara now, taking pre-medical work. Bonds are paying his tuition, and we're still buying them toward that M.D. for him. The Savings Bond method is wonderful for parents!"

The Dalys' story can be your story, too!

Whatever your dream, you can make it come true just as the Dalys did. But you've got to start *right now!* That's easier than you think if you take these simple steps:

1. Make the big decision—to put saving *first* before you even draw your pay.

2. Decide to save a regular amount systematically, week after week or month after month. Even small sums saved on a systematic basis become a large sum in an amazingly short time!

3. Start saving automatically by signing up *today* in the Payroll Savings Plan where you work or the Bond-A-Month Plan where you bank. You may save as little as $1.25 a week or as much as $375 a month. If you can set aside just $7.50 weekly, in 10 years you'll have bonds and interest worth $4,329.02 cash!

You'll be providing security not only for yourself and your family but for the blessed free way of life that's so important to us all. And in far less time than you think, you'll discover that you have turned your dreams into reality, just as the Daly family did.

FOR YOUR SECURITY, AND YOUR COUNTRY'S TOO,
***SAVE NOW*—THROUGH REGULAR PURCHASE OF U. S. SAVINGS BONDS!**

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PAYMENT PLAN FOR ROUTEMEN

By JOHN W. HICKS

Department of Agricultural Economics
Purdue University

THE MANAGEMENT of most dairies feel that their routemen are the keystone of their entire sales organization. To the public, the routemen is the symbol of the company he represents, and with him the reputation of that company rises or falls. Wages paid to routemen are the largest single expense in the retail and wholesale delivery of milk; yet to employ men who can meet the sales competition of rivals in the market, dairies must be willing to pay their routemen well.

With these considerations in mind, the type of routeman payment plan selected by a dairy looms as a decision of major importance. Does the plan offer the maximum incentive to the routeman as a salesman? Does it, in the overall and long run sense, keep the dairy's delivery cost at a minimum. Does it promote efficiency in work methods on the part of the routeman? Does it draw to the individual dairy the highest caliber of routeman? It will be seen that some payment plans accomplish these and other important purposes better than some other plans. Some dairies could probably increase their delivery efficiency and save large sums of money by changing their present method of paying routemen.

Five basic types of payment plans will be considered:

1. A flat salary
2. A straight commission on collections
3. A small fixed salary plus a commission
4. A large fixed salary plus a commission
5. A small fixed salary plus a commission plus a small payment per customer served per day, often called a customer account.

Measure of Effectiveness

The actual payment to the routeman for each quart delivered or customer served will, of course, depend upon the rate of commission, the amount of the salary, the price of milk and the number of customers served. Tables 1 and 2 show the cost in payment to the routeman of delivering various quantities for each of the five plans under the rate and price situation existing at the time of a recent study by the Purdue Experiment Station. Since prices and wage rates change, the different payment plans cannot be judged from these figures alone. Each type of plan, however, has certain general characteristics by which it may be appraised.

To achieve most effectively the desired ends, routemen payment plans should probably have the following attributes:

1. The plan should provide incentive for the routeman to increase his sales and get new customers.
2. Payment should reflect the value of the routeman to the dairy (in economic term, the wage should equal the marginal revenue productivity of the routeman).
3. The plan should be considered fair and reasonable by routemen.
4. The plan should provide for some flexibility in payment per unit as the price of milk changes.
5. Payment to routemen should be easy to compute, and for the routeman to understand.
6. The unit cost of delivery should decrease as the quantity delivered increases.

Probably no one plan could qualify 100% on each of these six points, as some more or less contradict others. However, two of the five types of plan discussed appear to rank higher on the basis of these qualifications than do the other three.

The plan which includes a small salary, a commission and a customer account meets five of the six requirements rather well. The commission

XUM

HERE'S A DAIRY THAT DID!

White Ice Cream and Milk Company of Wilmington, N. C. delivers milk to both consumers and wholesale accounts in 30 refrigerated trucks at temperatures well under 40 degrees. Cases of milk are loaded directly into the trucks as they come off the bottling line to save intermediate handling. In using United Steel Cases, there are no wood barriers to retard the cooling process and the milk is cooled quickly and economically in the truck.

1. **YOU SAVE INITIAL AND REPLACEMENT COSTS**
Many dairymen have found they spend less than half as much for cases over a 10-year period using United Steel Wire Cases. You save, first, with a lower initial cost. You save, too, in replacement costs as these tough, welded-steel wire cases won't rot or burn.

2. **YOU SAVE COOLING TIME**
Users find their milk, placed in cooling rooms, cools in 1/3 the time in United Steel Cases. There is less material to cool. Your compressor runs less and your power bills are greatly reduced.

3. **YOU SAVE FLOOR SPACE**
United Steel Cases take less room in the plant, cooler room or truck—relieve crowded conditions to increase the efficiency of workers.

4. **YOU SAVE STORAGE AND HANDLING COSTS**
United Steel Milk Cases are so lightweight and easy to handle, they save many hours daily in handling time. They reduce worker fatigue and improve employee relations.

5. **YOU SAVE CUSTOMER TEMPERS**
Your customers are not embarrassed by clinging refuse and dirty bottles when you use these cleaner cases. There are no cracks or crevices to collect filth and bacteria. They will not hibernate cockroaches and other vermin.

Whether you use round or square glass bottles or paper cartons, there is a United Steel Case for all types and sizes that will give you these five-way savings. Write today for full details.

UNITED STEEL AND WIRE COMPANY
137 Fonda Avenue, BATTLE CREEK, MICHIGAN
Manufacturers of Crates . . . Carriers . . . Bale Trays . . . Ice Cream Equipment

provides a definite incentive for increasing the volume of milk sold. Since the profit of the dairy is derived from the sale of milk, the plan does a good job of reflecting the value of the routeman to the dairy. The cost per unit is flexible with the price of milk since the commission is computed on the dollar value of collections. When the price of milk rises or falls, the payment per unit to the routeman also rises or falls. In addition, this plan allows for some decrease in the unit cost as the quantity delivered increases. Finally, the inclusion of the customer account recognizes the fact that the number of customers served is an important measure of the work required, particularly on retail routes. From the point of view of the routeman, this plan appears more equitable than the others. The only real weakness of the plan is that it is somewhat complicated to compute.

A small fixed salary plus a commission has all the advantages mentioned above, except that it does not entirely eliminate the inequity between routes of many customers and low volume, and routes of fewer customers but higher volume. Considerably more work is required on a route delivering 500 units to 200 customers, as compared with one delivering the same quantity to 100 customers, other things being equal. This plan is, however, more simple to compute and understand.

The straight commission has two main shortcomings. It does not consider the number of customers served, and it does not provide for a decreasing cost per unit as the quantity delivered increases. With milk at 18c per quart, and a commission rate of 14%, the payment to the routeman per unit would be 2.52c whether he delivered 300 or 600 units per day. Otherwise, the straight commission meets the requirements well.

A flat salary paid to all routemen at a dairy fails on four of the six counts. It does not offer any incentive to the routeman to increase sales. In some cases, it would not properly reflect the value of the routeman to the dairy; nor is such a plan usually considered fair by routemen. Finally, it provides for no flexibility with changes in the price of milk. The main virtues of the flat salary are that it is easy to compute, and does provide for decreasing unit cost as quantity delivered increases.

Table 1

COMPARISON OF PAYMENT TO RETAIL ROUTEMAN PER UNIT, DELIVERED UNDER FIVE DIFFERENT PAYMENT PLANS*

Payment Per Unit in Cents to Routeman

Units per Day	1. Straight Salary	2. Straight Commission	3. Low Guarantee Plus Commission	4. High Guarantee Plus Commission	5. Guarantee Plus Com. Plus Cust. Acct.
100	12.85	2.52	4.39	11.38	6.31
200	6.43	2.52	3.00	5.71	3.85
300	4.28	2.52	2.54	4.01	3.03
400	3.21	2.52	2.31	3.16	2.63
500	2.57	2.52	2.17	2.65	2.38
600	2.14	2.52	2.08	2.31	2.22
700	1.83	2.52	2.02	2.06	2.10
800	1.61	2.52	1.97	1.88	2.01

*Based on milk at 18c delivered to the door. 150 customers per route, and the following salaries and commissions:

1. Straight salary $90 per week.
2. Straight commission—14% of collections.
3. Salary $18 per week plus 9% commission.
4. Salary $74 per week plus .6c per point for all over daily base of 191.
5. Salary $50 per month plus 7¾% commission plus 2c per customer served per day.

Table 2

COMPARISON OF PAYMENT TO WHOLESALE ROUTEMEN PER UNIT DELIVERED UNDER FIVE DIFFERENT PAYMENT PLANS*

Payment Per Unit in Cents to Routeman

Units per Day	1. Straight Salary	2. Straight Commission	3. Low Salary Plus Commission	4. High Salary Plus Commission	5. Salary Plus Com. Plus Cust. Acct.
400	3.21	1.26	1.44	2.85	2.01
600	2.14	1.26	1.26	2.48	1.85
800	1.61	1.26	1.17	2.01	1.73
1000	1.29	1.26	1.12	1.73	1.66
1200	1.07	1.26	1.08	1.54	1.62
1400	0.92	1.26	1.05	1.41	1.58
1600	0.80	1.26	1.03	1.31	1.56

*Based on milk at 18c at wholesale. 35 customers per route, and the following salaries and commissions:

1. Straight salary $90 per week.
2. Straight commission—7% on collections.
3. Salary $18 per week plus 5% commission.
4. Salary $81 per week plus .6c per unit over daily base of 191.
5. Salary $50 per month plus 7¾% commission plus 2c per customer served per day.

Large Fixed Salary Poorest

A large fixed salary plus a small commission or bonus also has a number of deficiencies. In many cases the commission is too low to provide much incentive. Because of the high fixed salary, the payment often does not accurately reflect the value of the routeman to the dairy: often a man who does a good selling job receives little more than one who does a poor job. The high fixed salary also often prevents payment being in proportion to the physical work required to run the route. This plan allows no flexibility at all in regard to changes in the price of milk: cost of driver payment would be the same whether milk was 17c or 21c. To its credit, this plan is as easy to compute as most, and does provide for decreasing unit cost as volume increases.

Taking everything into consideration, a payment plan including a small fixed salary, a commission and a customer account appears to be the most satisfactory method of paying retail routemen. If, however, management objects to the somewhat more complicated calculations necessary under this plan, the small fixed salary plus a commission will probably do the job nearly as well. For wholesale routes, where number of customers is not quite as important a measure of the work required, the small fixed salary plus the commission appears to be most satisfactory.

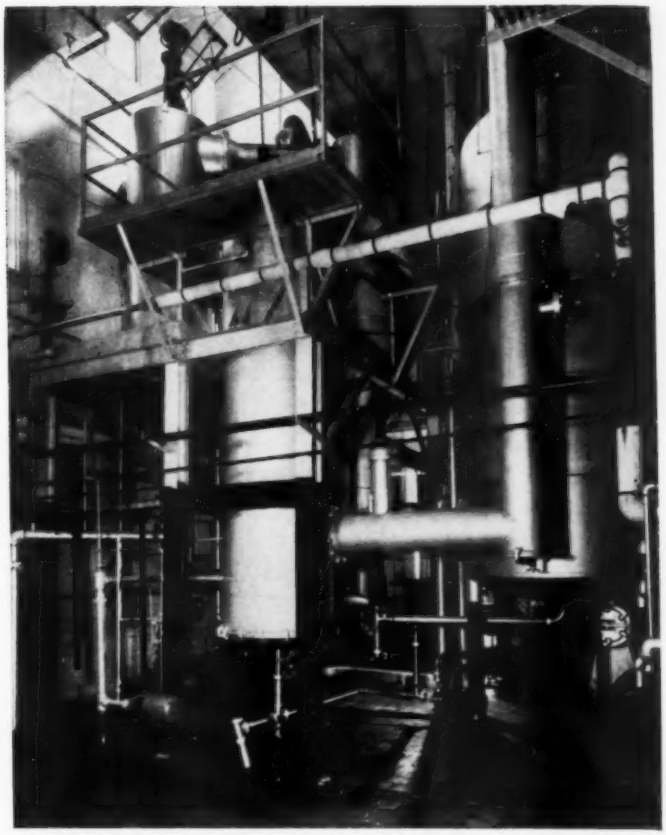
In addition to the basic wage systems discussed, many dairies make some additional payments to routemen in the form of free milk allowances, contributions to pension plans, benefit associations or group insurance, and special bonuses and incentives for winning sales contests or other wise excelling in sales work. In most cases these additional payments appear well worth while in morale building and improving the general spirit of the sales organization.

All of these points deserve special thought and attention by management. Whether the days ahead bring a war economy or continued peace time operations, the routeman will continue to be a most important factor in the success of a dairy, and the organization having loyal and progressive routemen will be the successful and progressive business.

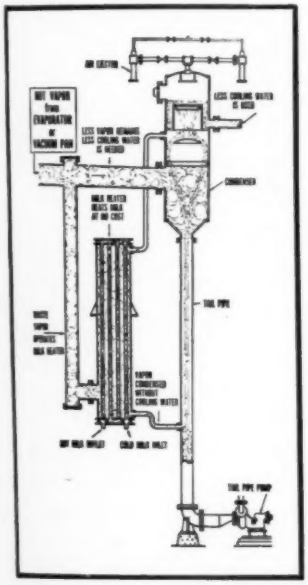
Peak Quality Products at Lowest Production Costs... Mean

GREATER PROFITS

Write for Bulletins 343 and 344.



This plant is now enjoying Double Effect economies by the addition of a BUFLOVAK Evaporator to their vacuum pan.


HOT VAPOR from EVAPORATOR or VACUUM PAN
LESS COOLING WATER IS NEED
LESS VAPOR REMAINS LESS COOLING WATER IS NEEDED
CONDENSER
MILK HEATER HEATS MILK AT NO COST
TAIL PIPE
VAPOR CONDENSED WITHOUT COOLING WATER
HOT MILK INLET
COLD MILK INLET
TAIL PIPE PUMP

Flow diagram of a BUFLOVAK Vapor Milk Heater, showing how it operates at no fuel cost on waste vapor.

Buflovak

MILK EVAPORATORS

Substantial savings in steam and cooling water . . . simplified operation . . . longer operating periods . . . sanitary, immaculate cleanliness easily maintained . . . lower production cost . . . a high quality product that demands peak prices. All ADD up to MORE PROFITS.

These BUFLOVAK profit-building factors are yours — whether in the conversion of a coil type vacuum pan into a Double Effect, or with a new BUFLOVAK Single, Double or Multiple installation.

Multiple Effects equipped with Vapor Milk Heaters save up to 67% in steam and 80% in cooling water.

The new tangential method of vapor handling insures the highest recovery of milk solids in all BUFLOVAK Evaporators.

...And the *Buflovak* MILK DRYER

Companion equipment of the BUFLOVAK Evaporator is the BUFLOVAK Milk Dryer for direct conversion from liquid to dry skimmilk, whole milk and sweet and sour buttermilk.

BUFLOVAK EQUIPMENT DIVISION
OF BLAW-KNOX COMPANY

1627 Fillmore Avenue **Buffalo 11, N. Y.**

XUM

Short Radio Spots Prove Value in Milk Advertising

Programs Dealing with Household Subjects Are Effective and Inexpensive Devices for Catching Public Attention

By EUGENE A. CONKLIN

MILK PLANTS throughout these United States have discovered that radio advertising need not prove unduly expensive nor yet too difficult to plan as to program and timing. With the advent of the so called "short short" or five minute radio featurette – more and more milk plants are hopping on the radio bandwagon and finding the ride both pleasurable and profitable in the extreme.

One milk plant presents a program known very simply as "Apartment Housewife." This program heard Monday, Wednesday and Friday, from nine twenty-five through nine thirty in the morning, offers timely hints on decorating an apartment, cooking in a kitchenette, raising children in a flat, and other aspects of living satisfactorily in cramped quarters. Any individual is cordially invited to leave hints, written or typed in the routeman's empty bottles or at the corner grocery where they will be forwarded to the milk plant. Those hints which are used bring payment in the form of a voucher exchangeable with routeman or grocer for seventy-five cents worth of dairy merchandise. Nearly 53% of the milk purchasing public dwells in apartments and the like, hence the utility of such a ether presentation.

Another milk plant has an almost unique radio program known as "Housing Newscast", heard nightly from six twenty-five through six thirty. All real estate agencies, individuals and families submit brief bulletins on houses for sale, rental or leasing. Individuals and families in urgent need of a house overhead also prepare equally tersely worded bulletins relative to housing needs. All such bulletins in either category are left with grocer, route man, or mailed to milk plant. No favoritism is displayed, all realtors are given equal radio facilities. Not unnaturally the milk plant secures names of many new dairy products prospects through this program and at the same time insures the good-will of real estate agencies and dairy product users in the community.

Still another milk plant has several rather unique radio spots. First and foremost on the agenda it presents the "combination weather report, time signal and temperature reading, every morning at eight fifteen. Hardly a person exists who is not interested more than somewhat in weather indications, the correct time, or temperature. The commercials stress the value of having milk in the house on stormy days when children have to stay in and plead for innumerable snacks during the long, long day ahead. The value of milk on hot days when cooling soft drinks do not actually cool but when milk is most helpful in the cooling off process is another point.

This milk and dairy products plant has also a spot "Meet The Milkman". Each day the transcribed voice of a routeman or corner grocer, speaks to the radio audience. The spot has the deliveryman or grocer introducing himself or herself, and explaining in his or her own words "Why I Believe Milk to be the Greatest Food Value On the Market Today." Every routeman and grocer is eventually heard in these transcribed interviews. The dairy plant intends to record voices of milk plant employees, office workers and so on down the line for future radio broadcasting purposes.

"NOW, ABOUT SOME MILK"

This milk plant offers another unusual radio spot, the "Welcome Mat" heard Monday and Friday mornings at eight thirty. On this brief radio presentation, the names of new routemen who have "joined the company", new groceries and dairies who are handling products, are offered for the benefit of the milk consuming public. In this fashion new plant employees and groceries are introduced to the public.

Another milk plant capitalizes on the simple fact that everyone – well nearly everyone – has a birthday or anniversary. It presents two companion programs, "Welcome – Birthday, and Happy Anniversary" Husbands may write out a personal ten word message congratulating the little woman on an impending birthday or anniversary and the female of the species may do likewise for her male spouse. These messages may be handed to a routeman, given to a grocer or sent in to the milk plant proper. No charge is made for the broadcasting of these birthday and anniversary messages. On Monday, Wednesday and Friday, birthday greetings are broadcast. On Tuesday, Thursday and Saturday anniversary greetings go on the air. The time, in both instances, is from eight five through eight ten a.m.

The commercial segment of this program points out that butter, cheese, and milk products help conserve energy and keep individuals in the best of health so that they may enjoy many, many more birthdays and anniversarys during a long and most healthful existence.

It will be noted that the majority of these air programs are less than five minutes in length and involve no huge talent expense or program costs. In some instances – the radio listeners supply the basic material for the program in the form of birthday bulletins, house notices, hints on "making apartments more livable" and the like. This builds a more personalized presentation, stimulates listening, without excessive costs.

ANOTHER REASON WHY

SHARPLES IS...

your best investment

seals

Flexible . . . fat resistant . . . Sharples Presur-Seald seals provide positive protection at operating pressures with hot or cold milk. There is practically none of the customary product loss at inlet and outlet points—and service life of a couple of weeks or more per set is not uncommon.

The life of any seal depends to a great extent on the care given the handling of equipment . . .

But whether they're given special or usual care, reports from all over the country show that SHARPLES SEALS WILL LAST LONGER! . . . money in your pocket.

Since I started clarifying, I've stepped up quality and have a better market for my products.

One Quality THE BEST-BUY **Sharples**

THE SHARPLES CORPORATION

2300 Westmoreland Street, Philadelphia 40, Pa.

INDUSTRY PROBLEMS

Dr. Robert F. Holland and Dr. James C. White, both of the Department of Dairy Industry at Cornell University, conduct their question and answer column each month in the "Review". Questions should be addressed to either Dr. White or Dr. Holland, Department of Dairy Industry, Stocking Hall, Cornell University, Ithaca, N. Y.

Determination of Efficiency of Homogenization

QUESTION—What is the standard for effective homogenization of milk? How is it determined?

A. C. F., New Jersey.

ANSWER—The U.S.P.H.S. defines homogenized milk as that which has been treated in such a manner as to insure break-up of the fat globules to such an extent that after 48 hours quiescent storage, no visible cream separation occurs on the milk and the fat percentage of the top 100 ml of milk in a quart bottle, or of proportionate volumes in containers of other sizes (50 ml per pint and 25 ml per half-pint) does not differ by more than 10 per cent of itself from the fat percentage of the remaining milk as determined after thorough mixing. Thus if the top milk in a quart bottle contains 4.0 per cent fat, the remainder of the milk must test 3.6 per cent. The difference, 0.4 per cent, is 10 per cent of the figure 4 per cent.

To make a test in your own plant only simple apparatus is needed: Babcock or Gerber test equipment, 100 ml graduate for measuring the top 100 ml of homogenized milk and an aspirator or suction pump for collecting the top 100 ml of milk. This is prefered over direct pouring of the milk into the graduate.

The homogenized sample to be tested should be stored at a temperature between 40 and 50°F. and held without agitation for 48 hours. At the end of this period carefully remove the cap and pass a stiff wire around the inner surface of the bottle neck to loosen any adhering fat. Observe for any signs of cream separation or cream plug. Remove the top 100 ml from quart (proportionate amounts from other sized samples) by suction. Mix thoroughly and pipette sample into test bottle. Now mix the remainder of the milk and pipette a sample into a test bottle. Test both samples by the modified method for homogenized milk.

The U.S.P.H.S. index is calculated as follows:

Per cent top test—per cent bottom test=difference in tests

$$\frac{\text{Difference in tests}}{\text{Per cent top test}} \times 100 = \text{U. S. P. H. S. index (in terms of percentage)}$$

Example—Per cent top test=4.0

Per cent bottom test=3.6

Difference=0.4

$$\text{Thus } \frac{0.4}{4.0} \times 100 = 10.0 \text{ per cent}$$

Storage of Sweet Butter

QUESTION—We have a considerable quantity of sweet butter in storage from which we make ice cream mix. This butter was stored in June and July and we note now that the flavor is not good. We would like some advice before we make and store next year's butter to insure good keeping quality.

J. G., Pennsylvania.

ANSWER—The rapidity of flavor deterioration of butter in cold storage is in indirect proportion to the temperature of storage. In general, cold storage warehouses like to store butter at—10°F. to —20°F. and the latter temperature is much to be preferred.

The flavor developed is not usually bacterial in origin because the bacterial count usually goes down during storage. Present belief is that the flavors are due to progressive oxidation of the fat or fat-like constituents. Rancidity is seldom a problem but it seems almost impossible to store butter for extended periods without developing some oxidized flavor.

We know certain things which influence keeping quality. Obviously you must start with high quality cream —only the best materials can be stored for more than 3 months successfully. Contamination of the cream or butter with metals, such as copper from pipes, pumps, workers, etc., will hasten oxidation and should be avoided as far as possible.

High acidity in the churned cream will be detrimental to keeping quality and, of course, neutralization much below 0.18 per cent lactic acid (titrated acidity in the cream) may make neutralized flavors serious.

Since oxygen is essential to the production of oxidized flavor, firm packing of the butter and squeezing out air pockets will help prevent the undesirable flavor.

Butter which is not very stable before storage will never keep and, like many other things, butter does not improve with age. In order to determine the fitness of butter for storage, we would recommend that you subject it

(Please turn to Page 70)

XUM

NOW... watch these bottles move

If you're lucky enough to own a Cemac, you know what this great machine can do. Once you flip the starting switch, filled and capped bottles roll down the line at speeds that can't be matched by any other filler.

If you don't have a Cemac working for you... just compare these Cemac 28 speeds against those you get from your present filler.

Cream line milk	**135 BPM**
Homogenized milk	**130 BPM**
Chocolate milk	**125 BPM**
20% cream	**120 BPM**

Good as they are, these figures are only Cemac's *rated capacities*. Cemac milk fillers are operating at much higher speeds in many dairies all over the country... on all types of products... throughout the daily run. Think what such speeds could mean in your operation... how much you could cut production costs... how you could step up your profits.

"160 Bottles per minute" says Cemac Owner...

"With our Cemac 28 we operate on 38 mm. quart bottles with the milk at 40° at a speed of 160 bottles per minute."

WILLIAM TANIS
Ideal Farms, Inc., N. Haledon, Mass.

WANT TO KNOW MORE? We'll be glad to show you actual figures of Cemac operating speeds in dairies from coast to coast... give you names of Cemac owners in your locality who will let you watch this filler run. Ask your Crown Representative about it, or if you prefer, write us direct.

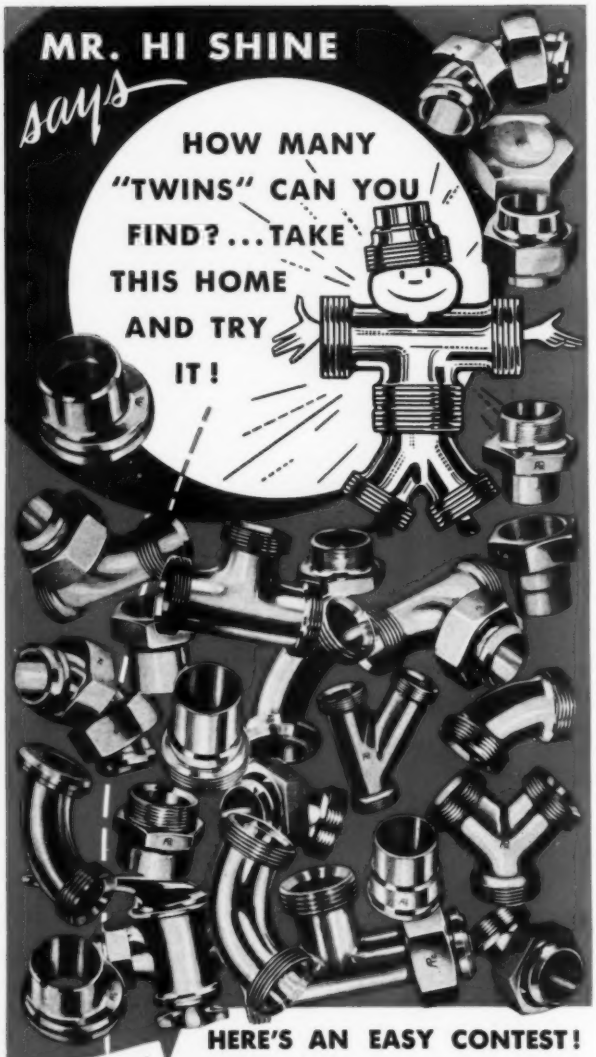
CROWN CORK & SEAL CO.
Machine Sales Division • Baltimore 3, Md.

Cemac VACUUM MILK FILLER

The Greatest Performer of them all

... AND REMEMBER, THE GREATEST COMBINATION OF THEM ALL IS CEMAC AND THE DACRO P-38 CAP.

Built in two sizes:
CEMAC 14
CEMAC 28



HERE'S AN EASY CONTEST!

If you don't want to enter contest, give this page to someone else.

DECISION OF JUDGES IS FINAL.

And for the 10 most accurate answers each month, bearing the earliest postmark, we'll award an A-P-C Stainless Steel Mixing Bowl (unbreakable) for your home. It fits any popular mechanical mixer.

Just pick out every pair of the same A-P-C Fittings shown here. How many such "twins" are there? Jot down your answer on a post card or tear out this advertisement and write your answer in the margin. *Entries must be individually postmarked within the month of publication of this magazine.* Don't forget your name and address!

The PRIZE—a lustrous A-P-C Stainless Steel Mixing Bowl.

AWARDS ANNOUNCED AFTER APRIL 30th.

That's all there is to it. And remember that handsome mixing bowl! Someone in your family will love it.

ALLOY PRODUCTS CORP.

WALTER J. WACHOWITZ, President

1065 Perkins Ave., Waukesha, Wis.

This contest closes February 28, 1951

DISCUSS ICE CREAM IN WARTIME

"War Economy" Operations of Ice Cream Industry Hold Top Interest in Gundlach Clinic Jan. 16-18

Irving C. Reynolds, Toledo, and Cleveland, Ohio ice cream manufacturer who in addition to developing high volume ice cream sales in his own business has demonstrated his talents in wartime operations of the dairy and collateral industries lead discussions on "Making and Selling Ice Cream in War-time" during the three-day ice cream clinic conducted Jan. 16-18 under the auspices of G. P. Gundlach & Company at the Cincinnati Club.

The Gundlach organization, nationally prominent in pioneering processing, marketing and technological developements in the ice cream, dairy and allied fields for the past 30 years sponsor the three-day marketing, merchandising and sales clinic which convened ice cream plant operators from all parts of the United States and Canada.

Reynolds, who is president of the Franklin Ice Cream & Candy Company with operations in Toledo and Cleveland is a leading industry personality and at present is the president of the Dairy Industries Society International.

Reynolds in leading discussions on "Making and Selling Ice Cream in Wartime" brought to the Gundlach clinic a wealth of his own industry and national service experience, coupled with a well-considered projection of his viewpoint on ice cream industry conditions under the present atmosphere of possible eventual involvement of the United States in a full-scale wartime economy. He also pondered the prospective industry conditions in the wake of the current defense preparatory program in advance of any more stringent situations created by actual war.

Cross-section of Opinion

The participation of representative ice cream plant operators from all parts of the United States in the Gundlach clinic supplied an effective sounding-board and cross-section of opinion for adaptation of Reynolds' recommendations.

Reynolds for 30 years has been engaged in the upbuilding of a successful business, yet in times of need has found himself available for unselfish service to his nation and to the industry.

During World War II, Reynolds was called to Washington to serve in the OPA national office as National Branch Chief for Allocation of Dairy Products, Fats and Oils. He later became Chief Procurement Officer for Perishable Foods for the U. S. Armed Forces. At war's end. Reynolds became an adviser to General MacArthur's Command for the setting up of a fresh milk supply in the Far Eastern sector.

C. W. Esmond, vice president of the Gundlach organization conducting the three-day clinic cited the importance of the "war economy" conditions confronting the ice cream industry.

"Whether the present stressed international relations becomes a 'shooting war' or not, the ice cream industry

will operate in a war economy atmosphere in 1951, and perhaps for many years thereafter," Esmond pointed out.

"For that reason, the sponsors of the Gundlach Ice Cream Clinic deemed it most urgent that ample consideration be accorded to 'war economy' conditions affecting the industry and that one of the nation's leading ice cream industry authorities, Irving C. Reynolds, accepted invitation to give the benefit of his experience and views to those ice cream plant operators assembled in Cincinnati January 16-18."

●

QUALITY CHEKD MEETS—CHANGES NAME

Highlighted by a change in the association's name, the adoption of a luxury type ice cream and the introduction of new members in the East and the Southwest, the Quality Chekd Dairy Products Association concluded its 10th general membership meeting in Chicago on December 1st.

The association, which for the past 10 years has been known as the Quailty Chekd Ice Cream Association, formally changed its name to conform to its entry into the entire dairy products field earlier this year. It is now to be known as the "Quality Chekd Dairy Products Association."

Adoption of a luxury type ice cream had been made by the association some time ago and details of the new product and its promotion which had been worked out in the interim were announced at the annual meeting by Harlie F. Zimmerman, Quality Chekd managing director.

This new product has been named "Quality Chekd Extra Fine Ice Cream" and it will be separately packaged and promoted by all association members adopting it.

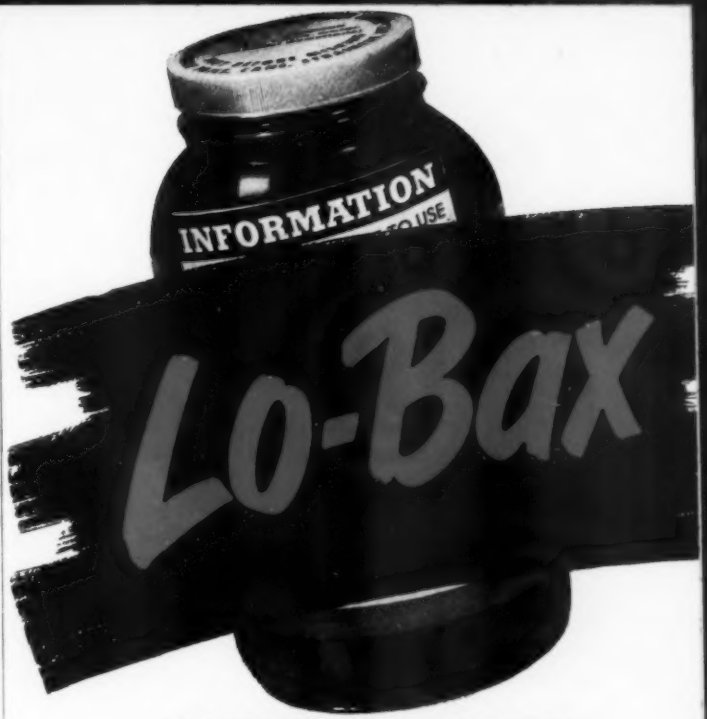
Extensive Advertising Program

Newspaper and radio advertising and a complete program of point-of-purchase merchandising has been prepared for the new Quality Chekd luxury product and will be available to all members who add it to their lines.

Representatives of eight companies which have just applied for membership in the association were introduced at the annual meeting. These firms are: Kelley Ice Cream Co., Providence, R. I.; Mohegan Dairies, New London, Conn.; Star Dairy Ice Cream Co., New London, Conn.; Emmadine Farms, Inc., Beacon, New York; Austin Ice Cream Co., Watertown, N. Y.; Esmond Dairy, Sandusky, Ohio; Hygeia Milk Products Co., Harlingen, Texas; Polar Ice Cream Co., Austin, Tex., and Dairy Maid Ice Cream Co., Beaumont, Tex.

November 29, the first day of the three day session, was devoted to milk and other dairy products and the other two days to ice cream. A highlight of each day's meeting was a member discussion panel on current industry problems and sales techniques which is an approach to inter-company cooperation for which Quality Chekd is noted.

Guest speaker of the meeting was Lloyd D. Herrold, chairman of the department of advertising. Northwestern University, who discussed the role of national advertising in the sales success of a firm or an association.



CHLORINE BACTERICIDES

with or without A WETTING AGENT

To help your milk producers sanitize their utensils and equipment EFFICIENTLY—ECONOMICALLY

Your milk producers know that high grade herds produce quality milk—and they are interested in protecting this high quality by making sure that their sanitation program is the most efficient and effective possible. That's where your field man can help by introducing them to the two tested and proven sanitizing formulations—Lo-Bax Chlorine Bactericides—now available with or without a wetting agent. Each product meets *all* the requirements of an effective chlorine bactericide for sanitizing milk utensils and equipment.

LOBAX-21—Chlorine with a wetting agent. Where extra penetrating action is desirable, recommend this new Lo-Bax formulation. It is fast-killing—free-rinsing—leaves no calcium deposits—no off odors. It is exceptionally smooth and easy on milkers' hands and on cows' sensitive teats and udders.

LO-BAX SPECIAL—A time-tested, economical and easy-to-use chlorine bactericide. Contains 50% available chlorine in dry, free-flowing form. Dissolves quickly in water, hard or soft, hot or cold, to make clear, fast-acting rinse solutions. It is absolutely harmless to cows' udders and milkers' hands.

You will receive dividends of better quality incoming milk when you help your suppliers to sanitize more effectively with these Lo-Bax bactericides. REMEMBER! LoBax-21 with the wetting agent—Lo-Bax Special without the wetting agent—*BOTH* high quality bacteria killers. Write us today for full information. Mathieson Chemical Corporation, Mathieson Building, Baltimore 3, Maryland.

Mathieson
CHEMICALS

SERVING INDUSTRY, AGRICULTURE AND PUBLIC HEALTH

XUM

WASHINGTON REPORTER

By C. C. CAMPBELL

THE STOP-GAP Order to freeze most living costs will require manufacturers, processors, wholesalers and retailers to give a 30-Day notice before raising prices. At this writing, the order has not been issued as yet, but will be unless stopped by high level policy makers.

Under the Defense Production Act, such an order would be accompanied by wage controls, though not necessarily at the same moment. The Wage Stabilization Board is working on a wage control recommendation.

The proposed price order presumably would not be directed at farm prices, since the Defense Production Act puts obstacles in the way of farm price ceilings. But food prices would be affected because retailers, wholesalers, and processing plants would be included in the 30-Day requirement.

Allen B. Kline, president of the American Farm Bureau Federation, opposes the use of price, wage and ration controls except in the case of an all-out war. Instead, he urges the adoption of "really tough" Federal taxes, credit and monetary control measures to fight inflation.

President Truman is expected to ask Congress to change the Defense Production Act in order to permit tighter control of farm prices. But even without new authority, Price Director DiSalle can issue a hold-the-line order which would keep farm prices from going above parity or the highest price before the Korean war. DiSalle also has the power to prevent food distributors from taking a larger share of the consumer's dollar than they took before the Korean war.

One of the sharpest fights in the new Congress is expected between labor interests calling for reductions or hold-the-line laws on food prices and farm interests insisting the prices be allowed to rise with costs.

Michael V. DiSalle, who incidentally has surprised Washington with his facility for fitting smoothly into the price picture despite lack of staff or lack of clear-cut policy, has now been given specific price control functions as follows:

1. Plan and develop short or long range price stabilization policies and create an organization for their administration.

2. Inform the public, agriculture, industry and labor concerning the need for price stabilization.

3. Establish price ceilings where necessary.

• • •

AS ONE of the features that will save labor, delivery difficulties, store space, etc., the Government is working actively on the possibility of producing frozen concentrated milk that will remain in good condition for several months.

The Bureau of Dairy Industry is seeking basic information on a wide range or processing and storage conditions on frozen milk in different classifications. Enthusiasts predict that frozen milk will soon approach the popularity of frozen fruit juices after it is satisfactorily introduced.

"WON'T YOU CONSIDER TAKING MILK FROM ME AGAIN?"

• • •

Department of Agriculture predicts that food prices may be expected to go up about 10 percent this year, barring price controls. Other Washington departments indicate that it will be about March first before the nation gets into a "controlled" economy. There is considerable talk, too, of a general sales tax within six months.

• • •

According to the Commodity Credit Corporation, the government lost $100,000,000 in its farm support program during the five month period ended November 30. Losses were largely on butter, egg, potato, grain, sorghum, milk and wheat purchases.

• • •

There is no sign as yet of gasoline rationing, though that is a factor that must be always be considered. Neither is there any indication of tire shortages. But tires will be made, more and more, of synthetic and substitute materials, and prices are going up. Goodyear has announced price increases from 12½ to 17½ percent, and other tire makers will follow.

• • •

Standards are to be issued for dried milk. Product will be graded by amount of scorched particles adhering to a disc after subjection to a specified hearing procedure.

• • •

CHARLES LEWIS, Acting Chief of NPA's Containers and Packaging Division presided at a meeting of NPA officials with members of the Fluid Milk Shipping Industry Advisory Committee.

NPA suggested that because of the coming shortages of tin and steel, the committee study means of eliminating waste and making savings of raw materials through standardization and

CLEAN AS A
WHISTLE!

YOUR bottles will be clean as a whistle when washed in a Girton Soaker Bottle Washer. Choice of 4, 6, 8, 12, or 14 wide models, with capacities ranging from 16 to 120 bottles per minute. Will wash from ½ pints to 2 quart sizes. Write today for full details.

GIRTON MANUFACTURING COMPANY
MILLVILLE, PENNSYLVANIA

Photo by Milwaukee Journal Photographer.

Come spring there will be fish in Wisconsin's streams if G. F. Metcalf, truck superintendent of the Western Condensing Company has anything to say about it. Mr. Metcalf, an ardent trout fisherman and a first class dairyman, is concerned over the twin problems of clean water and waste disposal. Battling a two pound rainbow to a standstill with a six ounce rod and a slender nylon line is one thing, watching a fish float by belly up because of a polluted stream is quite another. In 1949 Mr. Metcalf had a "Preserve Wisconsin Wildlife – Eliminate Stream Pollution" message painted on the rear of one of the trucks that was to appear in a parade. Decided, after the bands stopped playing, that it was a pretty good idea. The message remained on the truck. Soon all forty of the firm's trucks will be rolling across the State, carrying similar legends, spreading the gospel of clean streams.

simplification of design. Industry representatives asserted that most of the milk cans now being produced are standardized in line with Department of Agriculture recommendations. Chief difficulty, they said, was in getting the proper type of both hot and cold rolled black sheet steel. Because of steel shortage they had not been able to maintain normal production, with result that there is now a backlog of about six months unfilled orders.

NPA asked the group to give industry views on:

1. Number of milk cans that will be needed by the dairy industry during 1951.

2. How much steel could be saved if the milk container industry were assured of getting steel of the right type.

3. How much steel and tin could be saved by simplification of standarization of design and size of milk containers.

NPA reports that demand for all types of containers and packaging materials has risen to what is probably an all-time high. Supply and demand are out of balance for the first time since 1946, and customer requirements are not being met in their entirety.

* * *

STATE AND city regulations governing milk sanitation vary considerably in the maximum bacteria counts that they specify and in other requirements, reports the National Research Council of the National Academy of Sciences and the Department of Agriculture.

The report "Sanitary Milk and Ice Cream Legislation in the United States" covers the first phase of a study. The second phase will go into the administration of sanitary regulations for milk and the effects on milk quality.

The present report covers all published laws and ordinances on milk sanitation of all the States and of 84 large cities. It was found that most States had legislation that covered the various items of milk sanitation in reasonable detail, and nearly all State laws and city ordinances had been revised or amended in the last decade. The Milk Ordinance and Code recommended by the U. S. Public Health Service was followed, in general, in about half the States and cities.

* * *

Presidential approval of regulations issued by the Secretary of Agriculture in connection with the Agricultural Marketing Agreement Act of 1937 is now rendered unnecessary under a new Executive Order.

The Act permits the President to delegate to department heads, or other officials appointed with the consent of the Senate, authority to perform functions vested in the President or which could be performed only with the approval of the President.

* * *

The Supreme Court, in a recent decision, holds that under the Sherman Act, a combination to raise, depress, fix, peg or stabilize prices of commodities in interstate commerce is illegal.

* * *

Federal Trade Commission has issued a study on the condensed and evaporated milk industry. It deals mostly with the concentration of plants in a relatively small number of corporations.

> "In 1947, the largest condensed milk company operated 33 plants and the second largest 2. Although the 8 largest plants in the industry accounted for only about 7 percent of the industry's value, the 8 largest companies accounted for 63 percent. The four largest companies produced almost half the industry's value, but it took 66 plants to total this proportion of the business."

* * *

Senator Guy M. Gillette, who headed the Senate Agriculture Committee on Utilization of Farm Crops, has been assigned to the Senate Foreign Relations Committee. He has left his place on the Agriculture Committee.

R.G. WRIGHT

Guarantees

Lower can washer maintenance costs

with Wright HYDRAULICALLY OPERATED STRAIGHTAWAYS

Have you ever had a line of trucks loaded with cans of milk standing at your dock when your can washer was broken down? What a spot to be in. Maybe the clutch froze, or a gear, cam, shaft or lever broke, and the nearest source of repair parts is a thousand miles away. If your can washer is equipped with the conventional mechanical discharge and inverting mechanism, your answer is probably "Yes" with a capital "Y". But if you have a modern Wrightdraulic can washer, your answer is certainly "No".

R. G. WRIGHT COMPANY, INC

● MANUFACTURERS OF QUALITY DAIRY EQUIPMENT ●

23 ROETZER STREET ● BUFFALO 11, NEW YORK

do you *really* know what your cream is worth?

be absolutely sure with a

Testrite
BABCOCK TESTER

Unless you know the *exact* butterfat content of cream, you can't be sure of its real value—how much to pay for it, how much to ask for it. Inaccurate Babcock Tests may well turn profits into losses. A Cherry-Burrell Testrite Tester can eliminate this threat to your profits . . . you can depend on its greater accuracy!

Testrite gives you correct, controlled testing conditions. Correct temperature is uniformly maintained by properly tempered, circulating air which assures uniform heating. Direct exposure to the uneven heat of the heating element (as in the ordinary tester), causes ragged, slanting, or other poorly formed meniscus—none of which can be accurately read.

Speed of the tester is readily checked . . . easily controlled. There are many other control and operating features of the Testrite to assure you the greatest accuracy in testing. There is a Cherry-Burrell Tester for every need. The "Silver Flash" and the Model M are just right for the small plant. Rugged and reliable, these economical testers operate smoothly and easily. Ask your Cherry-Burrell representative to help you select the tester that fits your needs.

CHERRY-BURRELL CORPORATION
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Milk and Food Plant Equipment and Supplies
FACTORIES, WAREHOUSES, BRANCHES, OFFICES OR DISTRIBUTORS AT YOUR SERVICE IN 56 CITIES
trendmaker in a great industry

CARE OF THE HOMOGENIZER

(Continued from Page 16)

dition. If this is done with new machines the surfaces will gradually develp high hardness of considerable depth, thus reducing maintenance later.

Adverse suction conditions, such as getting air into the suction line or the pump being starved of product, greatly shortens the service of valves and seats because such conditions cause the slamming and pounding of the valves on their seats with resultant excessive wear. Poor suction conditions are usually evidenced by rough operation of the homogenizer and there will usually be a certain amount of pounding or knocking of the valves which sometimes is mistakenly attributed to loose bearings in the power end. When this occurs the suction conditions should be checked. Also if the valve seats and the seating surfaces of the valves tend to wear rapidly or if they require excessive attention to maintain good seating surfaces, the suction condition should be checked.

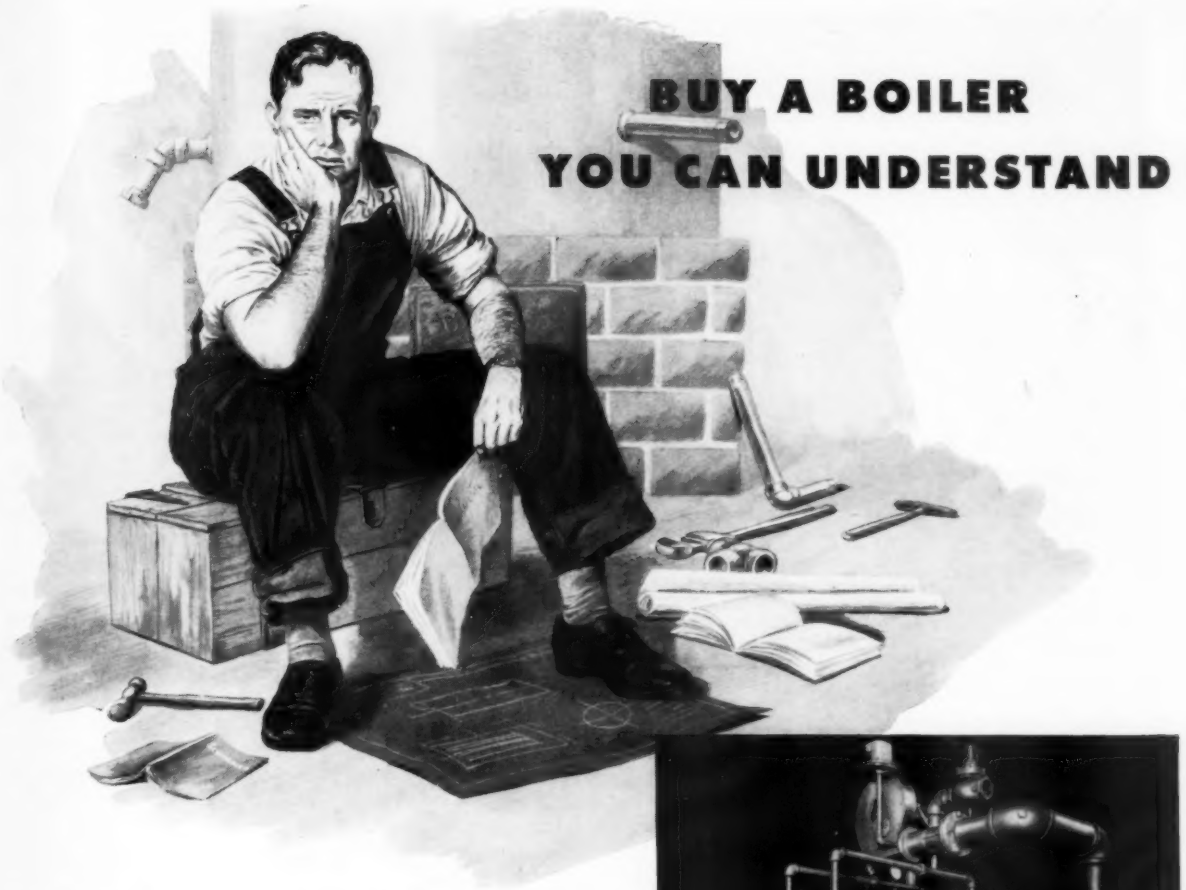
Make Connections Tight

All suction line connections should be tight to avoid the entrance of air and care should be taken to avoid entrained air in the liquid. Suction piping and fittings should be of sufficient size to supply the full capacity of the homogenizer without the necessity of the machine pulling an appreciable vacuum to overcome resistance through the suction piping and fittings. If the suction line is long or if there are a number of elbows or tees, the suction pipe and fittings should generally be a size larger than the size suction connection of the homogenizer. It should be kept in mind that the simple fact that liquid will flow to the homogenizer by gravity is in itself no assurance that the machine is not being starved, because there may still be sufficient friction in the pipe and fittings to cause starvation when the amount of liquid is flowing that is needed to supply the capacity of the machine. Only adequate size suction pipe lines are assurance against starvation due to friction in the piping unless a pump is used to adequately feed the homogenizer.

If the homogenizer was originally equipped with valve springs these should be maintained in good condition and continued in use in order to obtain best performance from the machine and lowest valve maintenance cost.

Homogenizing valves and seats should be reground when they develop a severly eroded appearance, in order to maintain the efficiency of the machine and to increase the life of the parts. Erosion proceeds progressively faster as it develops. Some of the later machines have replaceable caps on the homogenizing valves and seats, designed to increase efficiency and reduce erosion. However, while these greatly decrease erosion of valves and seats they do not eliminate it altogether and these parts should therefore be reground when they eventually do require it.

When a new homogenizer is first installed, it is advisable, when possible, to give it a "run-in" period of operation. This may be done by running it on water, permitting the machine to operate for a few minutes at



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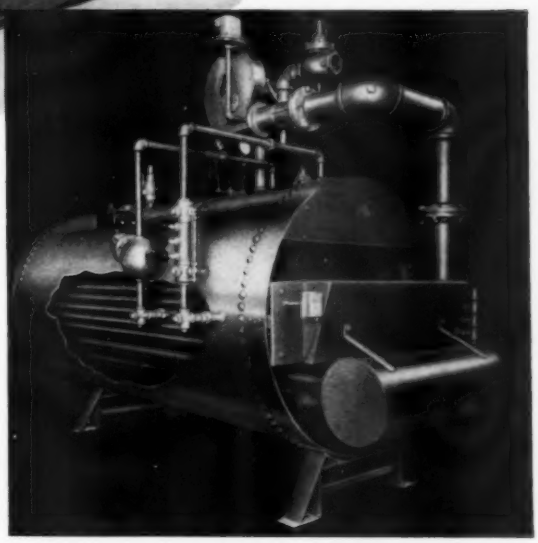
You don't need to be an Einstein or an atomic scientist to understand a Sellers Immersion Steam Boiler.

The advantages of the Sellers immersion firing principle are apparent because it is based on practical engineering and common sense. Every pound of metal in a Sellers is strictly functional. Every tube and turn is designed and located for maximum efficiency and safety, for steam production at lowest cost.

In a Sellers:

1. Firing tubes are completely submerged. All the *heat* goes directly into the water. Maximum heat transfer. No water line corrosion.
2. Water surface area is nearly three times that of a conventional boiler of comparable capacity.
3. There is no separate enclosed combustion chamber. No explosion hazard, no brick linings to replace, no carbon traps.
4. Expansion and contraction of firing tubes effectively combats scale.

Sellers Immersion Steam Boilers are available in twelve sizes to meet all standard requirements. All are built to A. S. M. E. Power Codes. It will pay you to get the complete Sellers story. Write for bulletin No. 1206C, today.



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There's no TESTIMONIAL like a Re-order..

Dairymen are re-ordering Erickson Aluminum Milk Cases because they are satisfied with the features in the construction of the case that cut operating costs:

- LESS BREAKAGE LOSS
- LESS WEIGHT TO HANDLE
- LESS TRANSPORTATION COSTS
- LESS REPLACEMENT COSTS
- LONGER LASTING

NO. 830—PINT SIZE—TALL

Manufactured by
C. E. ERICKSON CO., INC.
DES MOINES, IOWA

Sold Exclusively by
REYNOLDS METALS COMPANY
RICHMOND, VIRGINIA

no load, then gradually increasing pressure to about half the rated pressure of the machine over a period of an hour and then gradually increasing to full rated pressure over a period of eight or more hours. New machines are usually test run at the factory but the above procedure will aid in obtaining a good smooth running condition of the bearing surfaces.

When starting a homogenizer for a production run it is advisable to permit it to operate a few minutes without pressure, to permit the lubrication to be thoroughly established before load is applied. If the homogenizer is in a cold room (below approx. 55° F.) it is advisable to permit the crankcase oil to warm up somewhat before the production run is started by operating on water at one-fourth to one-half rated pressure. The bearing loads on homogenizer bearings run comparatively high and this kind of consideration in regard to lubrication when starting will pay off in reduced maintenance. Homogenizer bearings are usually large and the wear rate extremely low once lubrication is thoroughly established. Roller bearings require but little lubrication and usually may be started immediately under full load without excessive wear, but since roller bearing machines do not have roller bearings for the connecting rods the above procedure is still desirable.

Proper Assembly Vital

Before starting a homogenizer make sure the cylinder and homogenizing valve parts are properly assembled and particularly that the plungers are fully and tightly screwed in place. Serious damage may result if the machine is started when only partially assembled.

The rated operating pressure of the homogenizer should not be exceeded and from the standpoint of lowest power and maintenance cost, pressures higher than are necessary for the particular product being processed should be avoided. Data is available showing the approximate satisfactory pressures for most products, but as exact pressures may vary in individual cases both as to product and to the machine, it is advisable to experiment with different pressures and to use the lowest pressure which gives the desired results. Pressure gauges should be checked occasionally as the gauge which shows incorrect pressure may be the cause of considerable difficulty.

The operation, care and maintenance of homogenizers should be entrusted only to thoroughly capable personnel. Incapable and irresponsible personnel can be the cause of excessive maintenance cost. The instructions of the manufacturer applying to the particular machine in use should be carefully followed and it should be the responsibility of the management to see that these instructions are read and understood by personnel working with the homogenizer. Sometimes this is done when a machine is first installed, but overlooked when new personnel are later on involved.

We would like to mention again that this article is concerned only with general aspects of homogenizer care as each different make of machine will differ in details of attention and care for best and lowest cost results. A thorough review of the manufacturer's instructions is suggested and consultation with the manufacturer concerning any points about which there may be doubt.

installation after installation proves the superiority of

HENSZEY *Multiple Effect* EVAPORATORS

HENSZEY exclusive features provide:

- **Lowest total overall costs.**
- **Increased plant capacity and efficiency with reduced labor load.**
- **99.98% recovery of milk solids.**
- **Savings of up to 70% of steam and 72% of water requirements.**
- **Space saving compactness often increases capacity of plant without major building alterations.**
- **All parts quickly and easily accessible.**
- **Absolute sanitation. Entire unit thoroughly cleaned in one simple operation.**

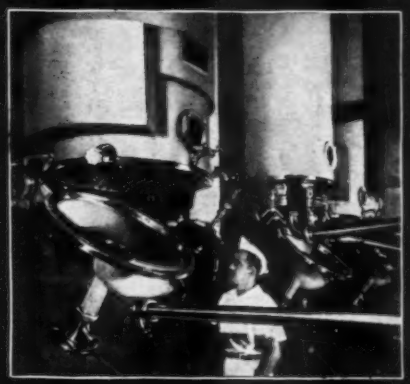
Write for new descriptive bulletin.

HENSZEY COMPANY

Dept. A **WATERTOWN, WISCONSIN**

ABOVE: Large Three-Effect Henszey Evaporator pre-condensing milk for milk powder production. 32,000 pounds per hour to 40% TS.

BELOW: Bottom doors of installation open showing accessibility and visibility of "straight through" surfaces.



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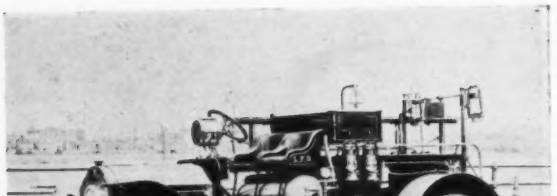
MILK EVAPORATORS and PREHEATERS

Also POWER PLANT SPECIALTIES including: CONTINUOUS BLOWDOWN, FEED WATER METERS, HEAT EXCHANGERS, FLOW INDICATORS, BOILER FEED REGULATORS, PROPORTIONING VALVES.



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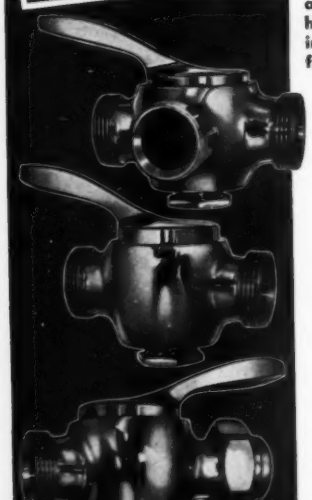

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DEFENSE TALK IN ILLINOIS

Speakers Call For Adequate Measures to Insure Defense — Prospect of Controls Are Discussed

THE DAIRY INDUSTRY is ready for war, according to Robert C. Hibben, executive secretary of the International Association of Ice Cream Manufacturers, Washington, D. C., as he reported to the President's luncheon which opened the 18th Annual Convention of the Illlinois Dairy Products Association at the Morrison Hotel.

"The ice cream industry is entering this National Defense period in an entirely different situation than at the start of World War II," Hibben said in pointing to the large storage quantities of dairy products. "After Pearl Harbor all dairy products were scarce and at that time I couldn't make the statement that I can today, that there is an abundance of cream and milk solids for use in ice cream."

The position of dairy products as high on the list of necessary foods was acknowledged by speakers for both the government and military, but their forecasts were more gloomy.

"By one means or another, you will be forced to forget financial gain, look after the military requirements first, and divide up what you have left among the civilian population," D. C. Everest, chairman of the board, Marathon Corp., Rothschild, Wis., and government consultant in three wars, pointed out. "Even in this you will be regulated."

After pointing up the changes within the industry, such as higher production per cow and the switch to whole milk instead of farm separated cream, and changes outside the industry primarily in consumption of fluid milk and cream products, Don S. Anderson, deputy director, Production and Marketing Administration, USDA, reminded the industry that in their case, price supports are mandatory by law but that if prices are up, it will be controls which will affect them. "In the last war, the dairy industry forgot that controls and shortages do not call for a normal commercial operation. If you have learned that lesson, then you will have developed a wider market, sustained quality and met the test."

Calls For Strength

"There is no more time for blundering or the injection of selfish interests in war preparation," D. C. Everest, chairman of the board, Marathon Corporation, Rothschild, Wis., warned. "We, in this country, can never again afford to let down in our maintenance of an adequate armed force to protect this country from aggression or be prepared to give battle on foreign soil if the situation demands it."

"This is a war, its extent no one can predict. There is no sense hoping some miracle will happen to change the thinking or the ultimate goal of our enemies. The tempo and the temperature of the war will be determined by the whims of the atheistic, communistic lunatics in the Kremlin."

Acknowledging the number one position of the dairy industry in the civilian and military economy of the nation,

Everest pointed out, however, that there are a number of factors which will immediately affect the industry and the domestic consumption.

"This is the third war-preparedness effort in which I have participated as a consultant in the Materials Section of the Forest Products Division which has to do with the production of pulpwood, woodpulp, paper and paperboard, and products made therefrom," Everest stated. "This talk has no official sanction and is my own personal opinion. By one means or another, you will be forced to forget financial gain, look after the military requirements first, and divide up what you have left among the civilian population. Even in this you will have regulation."

In listing other factors industry must face, he put manpower shortage at the head of the list because "unless we are content to eventually suffer defeat it is pretty certain that the demand for young men and women in military service will exceed any previous war." Then he listed transportation, fuel—including gasoline-chemicals, metals, power and wool noting that "we have had a policy of subsidizing perishable products, but we have sadly neglected our own safety and security by forgetting investment in non-perishable basic materials. It seems even more sensible to me to have a stockpile of base metals which have a marketable value than it does to have gold bullion buried at Fort Knox.

Asks For Higher Taxes

Calling for higher taxes and forced civilian purchases of government bonds, Roy E. Yung, Director of the Illinois Agriculture Department, jolted the morning session of the Association with a series of blunt statements which included:

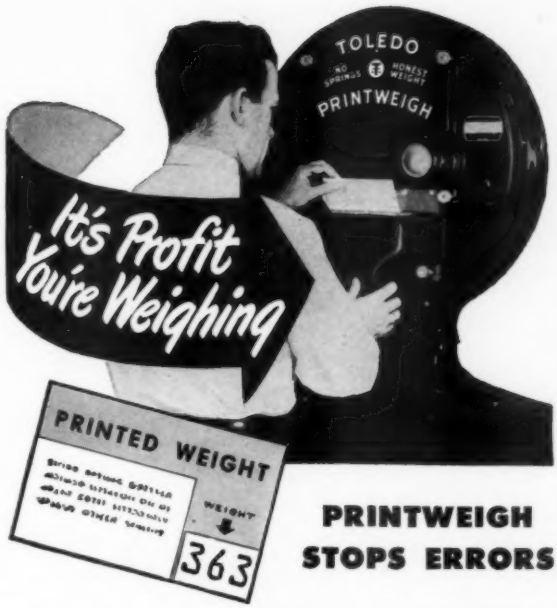
"I think consideration should be given to both an increase in taxes and a requirement to purchase government bonds, if the war clouds are as dark as they appear to me.

"I don't like governmental controls or a regulated economy any better than you do. Neither do I like this constant threat of greater and greater inflation. We in America are generally agreed that the government's excessive borrowing from banks, thereby increasing the bank's deposits and lending capacity, is among the many factors causing inflation.

"No doubt we could all agree that the cost of government is too high and we must curtail our non-essential spending. I might say here and now that the Federal Government has never had any monopoly on big government. Most governments are too big, including ours in Illinois.

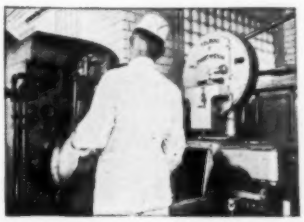
"The Schaefer or Little Hoover Commission, as it is sometimes known, which was established by the legislature in the last session and recommended by the Governor is doing a fine job in its study of State Government," Yung pointed out in referring to new economies and streamlining in the Agriculture Department. "Much needs to be done in the way of reorganization."

Sharing the morning speaking program was T. Kline Hamilton, president, Milk Industry Foundation, Columbus, Ohio, who called for greater effort to get more milk to the public at lower prices.



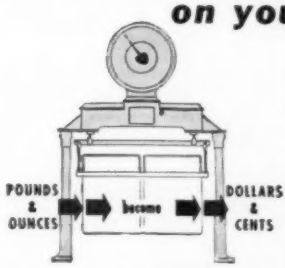
PRINTWEIGH STOPS ERRORS

For closer cost control in your milk plant — Toledo Printweigh Scales provide printed weight records . . . assure you that the accurate indication of the Toledo dial will reach your accounting records without chance of human error. Prints big, clear figures . . . on thick tickets . . . on large or small sheets . . . on strips . . . with extra copies. Saves time, stops losses for milk receiving and other dairy weighing operations. Send for bulletin 2021 on modern weight control. Toledo Scale Company, Toledo 1, Ohio.



Printed weights assure accurate milk receiving records.

MILK becomes MONEY on your SCALES!



Errors made at the scale stay wrong forever. There is no chance to recheck; either because the milk (or other dairy product) has been shipped or has lost its identity in the general stock. You've got to be *right*—weigh it right—Toledo Printweigh means *accurate* weights *accurately* recorded!

Guard Costs with

TOLEDO

All the Way

Florida Producers Are Using Tank Trucks

By C. B. A. BRYANT
Johnson and Johnson
Chicago, Ill.

C. B. A. BRYANT

ONE PLACE in these United States where a visiting observer receives a convincing impression that they are one, is at Dade County, Miami, Florida. Here the sanitary control of the milk supply for the cities of Miami, Miami Beach and Coral Gables is vested in the Dade County Health Department. The Health Department's Milk Inspection Division is closely knitted in workable fellowship with that of the state. Their working together, as far as the milk protection for the public is concerned, is as the working of the nimble fingers of the human hand.

Nature has given to Dade County, Florida, many gifts —climate, rainfall, spacious level fields abounding in a monthly uniform growth of grass. Climate and sunshine have brought population and made a good market for milk. Man calls it "Grade A." Man here has taken advantage of these treasures of nature. He has amassed herds, spacious pastures, and the most modern of sanitary equipment to handle a large production of milk.

Dade County Health Department Milk Division, which has the responsibility of controlling the purity of this milk production and its distribution to the public, is headed by Mr. J. French Koger, Chief Sanitarian. He is assisted by two associates. First Associate is Charles Stoy, Second Associate is Harvey Jordan. Heading the Health Department having jurisdiction of all angles of the public health is Dr. T. E. Cato, Health Commissioner.

A superior handling of the milk supply has been French Kroger's life ambition. He is now witnessing the achievement of his goal. This achievement was made possible largely through Mr. Kroger's ability to weld Dade County dairymen, Health Department personnel and equipment suppliers, into a working team, all striving to help each other. It is a matter of pride with them to see that the best known methods are used to protect the purity of the milk supply for Dade County at all times.

Perhaps, because nature in Dade County does not give opportunity for best results for general farming as it is known in the north, usual animal feeds are not raised economically. Here there seem to be no natural small general dairy farms. Dairying has ben undertaken on a large scale, and I mean a large scale. Current 1950 statistics state that there are 94 local dairies producing milk for this fluid milk market. These are located within approximately fifty miles of Miami. Each is milking from 150 to 1,400 cows daily. The Jersey cow seems to prevail. Sixty-four of these farm dairies are large enough and milk a sufficient number of cows each day to warrant their having a thermos

Kurly Kate
METAL SPONGES
Designed especially for cleaning all types of dairy equipment and utensils. Will not rust or splinter, cut the hands or injure metal or plated surfaces. Kurly Kate Metal Sponges are fast working, easy to use, and easy to keep clean. Made in STAINLESS STEEL, NICKEL SILVER and BRONZE.
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stainless metal sponge
FOR EASIER INDUSTRIAL CLEANING
SOFT ON HANDS
SANITARY
ORDER FROM YOUR JOBBER OR WRITE DIRECT

tank truck of their own on their farm. The minimum capacity of the smallest of these farm tank trucks is 500 gallons.

At each of these 64 farm dairies milk from the cows is pumped through a filter over or through, a cooler, and directly to this thermos tank truck stationed in a closed room. Each day the farm dairy owner drives this milk tank truck to the city fluid milk plant.

The pasture fields adjoining each farm dairy are spacious–flat–comprising many acres. It is not uncommon in driving by for the eye to see five hundred cows in one pasture field. These fields are constantly green, freshened by weekly short rains and plenty of sunshine. I asked one dairyman for how much of his feeding schedule could he depend upon the grass, which looked so attractive and green from the roadside. He estimated 15%. He said the grass was good for keeping the cows busy and content, the weekly rains and sunshine plus the high average temperature keep it green and growing, but that they had much to accomplish in building into grasses greater food value and nutrients. Alfalfa and clover as we know them in the north do not seem to be a natural here. No hay is raised. Hay, shipped in from the north, is prohibited by high freight costs. Therefore dried citrus pulp and beet pulp, presently coming from Italy, is the principal source of roughage feed. The pasture grasses giving the balance. This roughage is mixed with ground grains and fed twice every 24 hours when cows are in the milking barn. Replacement cows received from Georgia, Alabama and other states north where they have been accustomed to hay, when introduced to a 100% ration of these pulp roughages, fall off in butter fat production. This is not so with the bulk of their replacements which are locally raised heifers. Therefore, large cow dealers furnishing these milking cow replacements from up north of Florida, gradually prepare these cows for this roughage feed, before their introduction to this area.

The equipment at each dairy is most modern. French Kroger and his associates, with each of the 94 dairymen, pride themselves as being a team, effectively cooperating to obtain as a constant goal, the best city milk supply known.

Splendid Facilities Found

I visited a dozen of these dairies and made a complete moving picture of the operation, covering all features of production and the handling of the milk from the cow to city milk plant. All farm dairies are equipped with a lavatory having flush toilets. All are very clean; some have tiled walls and are as attractive as in the best hotels. All personnel working with the cows and in the farm dairy milk room handling the milk are unusually careful. Each could pass with a high score as a sanitarian in his own right.

At milking time the milk at the teats of these thousands of healthy cows, where it is normally clean–was kept clean by proper preparation before milking. Each cow was gently "hosed down" by a small stream of water. This is followed by a complete wipe down of udder and teats by a sanitized towel. All milking is done by machine. In several cases milking is drawn into a continuous

Another Great Holcomb Money-Saver for the Milk Industry

You've never before had a cleaning powder with the "dig" of Holcomb *Puritine.* Puritine goes to work instantly, works fast and thoroughly—cleans floors, walls, windows and equipment with ease. Puritine is a water conditioner, a cleanser, a free-rinser, too—and 100% soluble in hot or cold water. And like all Holcomb products, Puritine cuts cleaning time, cuts labor—costs less per year than any other cleaning chemical.

Use Puritine wherever you clean with water. Call your Holcomb Serviceman for all your cleaning needs. Factory, Indianapolis 7, branches in New York and Los Angeles.

Holcomb Handle Scrubbers

33,000 fast, dirt-digging fibers in 12 "bobs." End flared stock scrubs all the way up to the baseboard. Stock will not squat. No. 04066 for smooth and medium floors, No. 0120 for rough floor.

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Scientific cleaning materials

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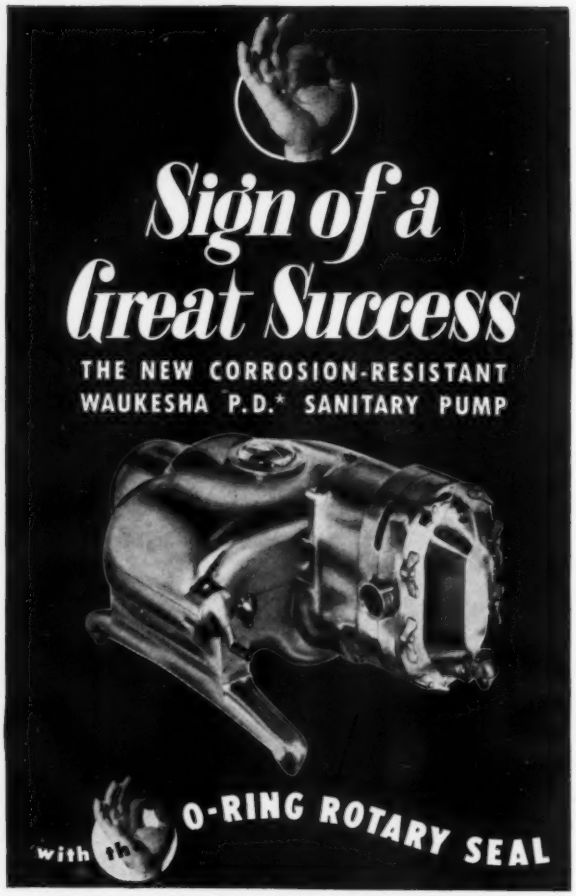


Streamlined, compact new WAUKESHA SHIFTSPEED PUMP. Has handy handwheel speed adjustment, high speed stop, new O-Ring Rotary Seal and adjustable legs.

You get new PLUS VALUES in sanitary pumps now with the new Waukesha . . . new time-saving sanitation, new performance, new durability, new beauty! The Waukesha O-RING ROTARY SEAL *alone* puts it head and shoulders ahead of others. With only ONE ring replacing SIX former parts you'll save substantially on cleaning, disassembly and assembly time. You need never consider painting or refinishing, for the New Waukesha Pumps are made *entirely* of gleaming, polished "Waukesha Metal"— a lifetime finish, easily cleaned, corrosion-resistant, tarnish-proof. Installation is simpler, too! The new steel plate base with easily adjustable legs can be leveled to uneven floors in a jiffy.

When you get all this — plus the time-proven advantages of Waukesha's P.D. Positive Displacement, non-aerating, non-agitating pumping — it's modern product-handling that really pays a profit on your investment. Write for the whole story TODAY.

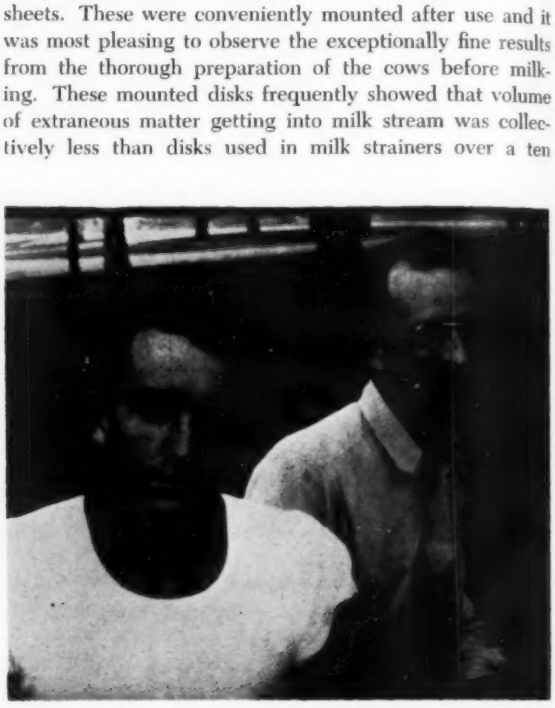
* P.D. means Positive Displacement to the last drop.

New WAUKESHA Pumps are available in V-Belt, Variable Speed and Vented types.

WAUKESHA FOUNDRY CO.
WAUKESHA, WISCONSIN

Waukesha 100% SANITARY PUMPS
Dependable Product of a Responsible Manufacturer

stainless steel 1¼" pipe. No milk machine bowl or pail is involved. For cleaning this milking system there is a special high pressure surge pump that sends a sanitizing solution through the pipes. We introduced at these places plate type filters to replace "in the line" tube type flannel filters. These plate type filters use fibre bonded single service filtering media. Because of filtering upward and receiving a slow stream of milk, heavier sediment settled and lighter sediment rose upon the fibre bonded cotton sheets. These were conveniently mounted after use and it was most pleasing to observe the exceptionally fine results from the thorough preparation of the cows before milking. These mounted disks frequently showed that volume of extraneous matter getting into milk stream was collectively less than disks used in milk strainers over a ten



Freeman Hale and son operate a large dairy farm in Florida's Dade County. They have their own tank truck which hauls the milk to the milk plant each day.

gallon can when no preparation of cows before milking took place, even though milk from 800 cows passed through these fibre bonded disks. Here this used single service fibre bonded filter media was truly "The Dairymen's Badge of Merit." Some of these farm dairies are equipped with electrical circular floor scrubbing machines which are used on floors behind and before the cows. Some places milk is cooled by being pumped through plate exchange coolers. These are becoming quite popular. Most places had surface coolers of various capacities for cooling the milk before going into the thermos tank trucks.

Motion Pictures Help

I have also made a moving picture of the Los Angeles, California, County milk production and handling for Los Angeles. Both Miami and Los Angeles rely principally on large dairies. There are possibly more cows at one spot in Los Angeles than in Miami. But both in size and methods of handling they have much in common. California specializes more in farm dairy holding tanks, having fewer tanks on wheels. It was noted, however,

that heifer calves were generally raised by the Dade County dairymen as part of their replacement plans. In Los Angeles, generally speaking, no calves are raised. Cows are brought into this California milk shed when in heavy production, perhaps during the fourth or fifth lactation. Farm tank handling of milk is also in operation at Columbia, South Carolina, and Hartford, Connecticut, each city having one tank truck operation.

Excellent Equipment

Observing the operations at all the farm dairies in Dade County, I was very conscious of the excellent equipment, health of the animals, cleanliness of the individuals and the premises. Preparation of the cows before milking and that of the equipment used for milking as well as the clean-up when through, was very good everywhere. Most impressive was the spirit of the operators and all the farm dairy workers.

Implementing the desire to having the best of equipment, the Dade County Milk Control Department in the person of French Kroger cooperating with Lewis Smith in charge of the State Milk Inspection for this area in Florida, asked for a demonstration by installation of the latest type surface "upward flow" filter. These plate type surface filters give operators a method of recording good workmanship in the proper preparation of cows before milking. In these single service filters fibre bonded disks are used, which, after milking, can be quickly and easily mounted upon any flat surface and observed as to amount of extraneous matter removed.

Previously had Poor Picture

Previously "in the line" filters using flannel bags or tubes, sometimes called socks, were mounted. A satisfactory, accurate picture was not obtained. At several places the old flannel filters were left in the line and the surface filters placed with fibre bonded single service cotton beyond so all milk which had passed the first filter passed through the second filter. Mounted used material indicated to observers present that the single service sheets presented a more complete picture of workmanship of the preparation for the milking. In Dade County at three different farm dairies these demonstrations were held. Three to six milkings were attended at each place. The used fibre bonded single service disks were observed by all health authorities, the dairy owners and operators, employees at the dairies and representatives of the dairy distributing supply industry. All were well pleased and delighted at the clean disks, which indicated the result of excellent preparation of each cow before milking and the handling of the milk from cow to milk room receiving tank.

Nature has truly blessed this section of our country. Men who live and work here have taken advantage of these superb natural assets. They have built a milk industry worthy of high commendation. Other cities and milk producing areas cannot embrace completely such an operation but they can profit by the practical lessons which are to be gained from experiences in these areas. J. French Koger with his fine co-workers and Lewis Smith of the State department cooperating with these 94 progressive dairymen, are reaching their GOAL.

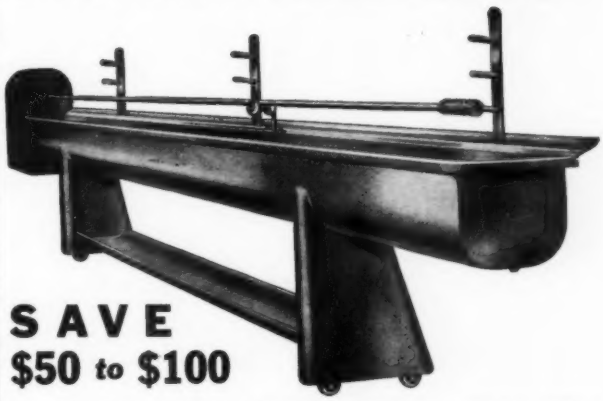
STOELTING

ADVANCED EQUIPMENT

★ Modern Design
★ Finest Stainless Steel Craftsmanship
★ Plant Layout and Engineering

Compare! AND CHECK THE EXTRAS YOU GET IN A

STOELTING
SANITARY PIPE WASHER



SAVE
$50 to $100

Get *all* the extras in a Stoelting Sanitary Pipe Washer *without* extra charge. Check these *included* features before you buy: *Complete* power assembly; covered hood for motor, pump and power assembly; set of four easy-rolling casters for quick portability; sturdy pipe rack; full back apron; broad lower shelf; 1½" sanitary pipe brush — everything you need for fast, thorough, economical pipe washing — backed by Stoelting time-honored craftsmanship for extra years of service. Save time . . . save money . . . get *all* the *extras* in Stoelting . . . by far today's best buy in pipe washers. Make your dollars *do more* and *go farther* with a Stoelting Washer.

For Extra Values and Extra Features Write

STOELTING BROTHERS CO.
Manufacturing Engineers for the Dairy Industries
KIEL • WISCONSIN

WISNER MANUFACTURING SELECTS

R. D. Britton, well known vice-president of the Dairy Industry Supply Association, has been elected president of the Wisner Manufacturing Corporation of New York. Mr. Britton's election was the result of action

FRED MALATESTA

taken by the corporation's Board of Directors in December. Other officers elected were J. W. Mayne, vice-president, and Donald L. Albee, secretary and treasurer.

The Wisner firm also has announced the addition of Fred Malatesta to its staff. Mr. Malatesta will serve in the capacity of sales engineer.

Mr. Malatesta has a long record of twenty-five years service in the dairy industry, the first fifteen of which were spent in the milk and ice cream business.

In 1940 he joined the staff of the Creamery Package Manufacturing Company and at the time he left Creamery Package in November, he was a Specialty Sales Engineer.

Mr. Malatesta is a member of the New York Section of the American Society of Refrigerating Engineers, a member of the Ice Cream Supply Men's Club of New York, the Metropolitan Dairy Technology Society, New York State Milk Sanitarians and New York State Dairy Boosters.

●

EMPLOYS AD AGENCY

The Meyenberg Milk Products Company, San Francisco, has retained the J. Walter Thompson Company as its advertising agency, effective January 1, 1951. Operations will be centered in the Los Angeles offices of both companies.

According to J. P. Meyenberg, President of the Meyenberg Company, major emphasis will be placed on the introduction of the company's All-Pure Vacuum-Packed Evaported Milk.

Trade and consumer media will be used in a national market-by-market campaign to stress All-Pure's new, exclusive vacuum-packing process which discards the old-type "vent-hole" method of filling and insures a more natural fresh milk taste and color. All-Pure will also bear down heavily on the superior advantages of its new "golden-lined" sanitary can, said by the retail trade to be the first major improvement in evaporated milk canning in 34 years.

All-Pure Evaporated Milk sales have been largely confined to California for the past forty years, but present plans call for national distribution as soon as new processing plants at Remington, Indiana and Watseka, Illinois are completed.

HOMOGENIZED MILK:

A REVIEW AND GUIDE

G. MALCOLM TROUT

An excellent guide for processors, this work supplies complete information on every phase of homogenized milk – its history, definition of principles, and extent of homogenization, as well as the advantages and disadvantages. Most of the literature available has been summarized with its material classified under such general headings as: processing homogenized milk, problems of homogenized milk, effect of freezing and thawing, and laboratory control.

Conservatively, next to pasteurization, homogenization has probably done more than any other process to increase the popularity of milk as a beverage.

Illustrated - - - - - - - - $3.75

MICHIGAN STATE COLLEGE PRESS, EAST LANSING

WIS. FORTIFICATION AMENDED

Wisconsin milk regulations, as they apply to fortification of milk by the addition of vitamins and minerals, were strengthened this week through a General Order issued by D. N. McDowell, Director of the State Department of Agriculture.

The new regulations, which become effective January 15, 1951, establish minimum requirements for the fortification of milk and milk products including cream, half and half, homogenized milk, buttermilk, skim milk and skim milk beverages. General order No. 103, now in effect, applies only to milk.

The revised order requires that milk and milk products, to be sold as "fortified", must contain at least the minimum daily requirements of Vitamins A, D, B_1, B_2, Niacin, Iron and Iodine which are recommended by dieticians for adequate nutrition.

If minimum units of any or all vitamins and minerals are added, it will not be required that specific units of both fortifiers be declared on container labels.

The amended order further requires a complete analysis of fortified milk and fortified milk products twice each year.

AND TO ALL A GOOD NIGHT

Milkman Jack Kilmartin of Fort Pierce, Florida, his face somewhat red, pleaded with his customers over a radio station that his intentions were good.

He explained that he purchased 300 Christmas greetings to leave along with the bottles of milk on the doorsteps of his customers between Fort Pierce and Vero Beach. He had visited 150 customers when he decided to open one and see just how nice the greeting was.

The first read, "Merry Christmas to Dear Brother." The second said "Merry Christmas to Dad." He frantically opened the next one. It read, "Merry Christmas to Grandma."

The fourth one caused the milkman to rush to radio station WIRA and broadcast an apology. This card said: "Merry Christmas to My Sweetheart."

—Reprinted from the Cheese Reporter

●

THEORY OF HOMOGENIZATION

(Continued from Page 13)

themselves to fat globules, leaving the South Pole ends sticking out into the water phase or milk serum. Since like poles of a magnet repel each other, the individual fat globules cannot join, because of the repelling action of the casein molecules. Two fat globules may tend to drift together, but as they approach each other, the repelling action of the casein magnet makes itself felt and off they go in opposite directions.

This of course is a simplified explanation of what makes an emulsion behave and there are many other theories and factors which must be taken into account if you should attempt to duplicate the cow and produce an emulsion.

Why Globules Do Not Rise

Now to explain the second part of the question as to why the fat globules do not rise to the surface as cream after milk is homogenized. As we have mentioned earlier, milk as

Chumlea's NEW AND ORIGINAL

CHURN FLAVOR

WITH STARTER ACTIVATOR

for Buttermilk and Cottage Cheese

. . . . . has rung the bell! Dairies all over the country are getting that good old-fashioned, churn-fresh flavor in their cottage cheese and buttermilk by using Chumlea's Churn Flavor. Customers are going all out for it. Sales and profits are steadily increasing. It is a pure milk product.

Chumlea's Laboratories takes pride in offering an altogether new and improved method of quality control in cottage cheese and buttermilk.

Controlled Starter Activation is the basic principle of our new CHURN FLAVOR giving *uniform quality every day* that makes your products top favorites wherever sold and insures repeat business.

ECONOMICAL AND EASY TO USE

No extra work. Just add 6 to 8 ozs. of CHURN FLAVOR to 100 gallons of milk when adding starter. Next day note the rich flavor and aroma. Next week note the cottage cheese sales go up. For buttermilk add 6 ozs. of CHURN FLAVOR.

THE COST? ONLY A FEW PENNIES A DAY

Make Quality Products! Remember — a good uniform flavor is your best salesman. Clip the coupon and get started today.

Chumlea's LABORATORIES
DEPT. AM — LEBANON, IND.

Please ship us:

1 gallon of Chumlea's Churn Flavor @ $6.00 per gallon

4 gallons of Chumlea's Churn Flavor @ $5.75 per gallon

Name .....

Address .....

City ..... State .....

XUM

it comes from the cow is a good natural emulsion. True, the cream will rise to the surface, but it does not coalesce to form an oily layer and it can be remixed with the body of the milk by shaking. This concentration of the fat to the surface is caused by the large size of the fat globules present in the natural milk. They being lighter than the milk serum rise to the surface. Since the larger the globules, the stronger the tendency to rise. As those found in natural milk are sufficiently large to partially overcome the repelling action of the casein molecules the cream concentrates in the upper part of the container.

The repelling action is not completely overcome or the fat would separate as butter, which is not the case in a sample of fresh milk. When the milk is homogenized and the size of the fat globules reduced to 1/200ths to 1/500ths of their original volume, the repelling force of the casein becomes stronger than the tendency to rise and the individual fat globules assume positions in the container as far from each other as space will allow. The relative forces necessary to keep fat from rising before and after homogenization can be demonstrated by measuring the relative forces necessary to push under water a gallon bottle filled with air, as compared to a one ounce bottle filled with air. In homogenized milk, the relative forces will be as much as four times that of the relative forces in the case of the two bottles. The milk having assumed that "exclusive club" position of every fat globule being just as far away from its neighbor as possible, is ready for market as Homogenized Milk.

Many industries spend large sums for research and control in the preparation of industrial emulsions of oil and wax, yet in spite of all this effort occasional batches of emulsion will not be satisfactory. The cow feeds on grass, hay, grain or any other feed that may be handy, under all conditions of temperature and weather and still produces day after day, that almost perfect natural emulsion we call milk.

●

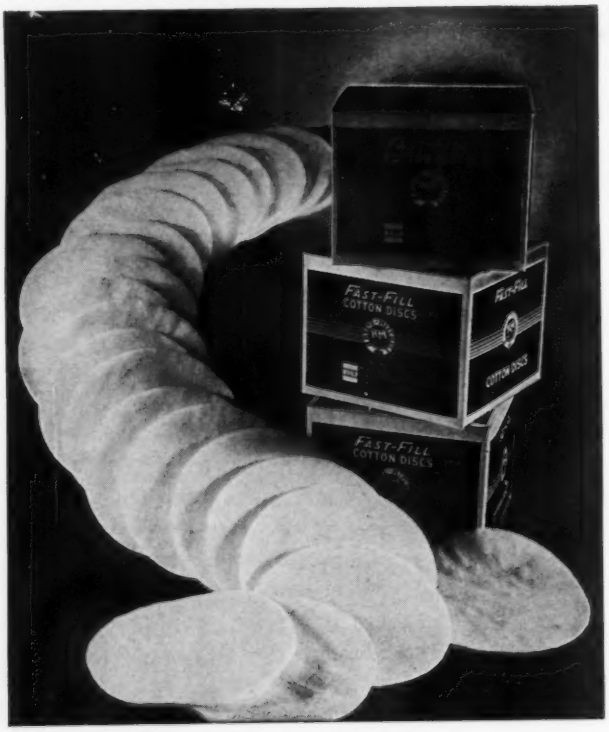
HOW HOMOS ARE MADE

(Continued from Page 10)

case they must be drilled exactly where they are supposed to be. Complementary parts of the homogenizer, being made in other parts of the plant at this same moment, must be fastened on the frame. The bolt holes being drilled in other parts must match the holes being drilled in the frame. There is no margin, no "this is about right." The holes must be where they are supposed to be and nowhere else. And so the frame is on the bed of the drill press and the operator swings the massive arm of his drill over the casting. It has all taken a matter of minutes, this business of placing a half a ton of homogenizer frame into the proper position for accurate drilling.

Over on the assembly floor the varied rivulets of production are brought together. A line of homogenizers in various stages of completion are standing at attention like troopers at a regimental inspection. Trays of parts are distributed in logical order along the line. One man is installing motors, another is assembling cylinder blocks, plungers and valve assemblies. The whole operation moves ahead with characteristic precision. The progress is hardly perceptible at first. Each man is busy at his phase of the assembly operation and one is likely to see

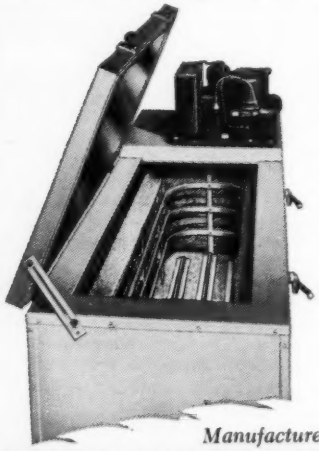
IT PAYS TO USE R&M QUALITY FILTERS



WRITE: REEVE & MITCHELL
300 SPRUCE STREET · PHILADELPHIA 7, PA.

MASTER-BILT MILK COOLERS
with
Galvanized or Stainless Steel Lining Inside
Heavy Duty Refrigerating Units
Four Inches Fiberglas Insulation

Make your choice from the seven popular models listed; they permit the storage of 30 to 120 gallons of milk and the cans may be placed in a single or double line.



USE
Master - Bilt Milk Cooler Agitators For Faster Cooling

●

Place Your Orders Now to Assure Your Getting Coolers While Available Sold by Most Dairy Equipment Distributors

Manufactured by
MASTER-BILT REFRIGERATION MFG. CO.
920 Palm Street
ST. LOUIS 7, MISSOURI, U. S. A.

it as an entity rather than as a part of a whole. Yet, even as one is watching a finished machine comes off the test block and is moved across the floor to the packing and shipping room. The mills grind slowly but they grind exceedingly fine.

There are other sections of the factory, less dramatic perhaps than the whirling machines, but nonetheless integral parts of the productive process. The engineering room where the experience gained from building ten thousand homogenizers is expressed in forms of modifications and improvements, in new designs and simplifications, is an ordered labyrinth of blue prints and drawing boards, drafting instruments and engineering manuals.

A second office, one that might well be labeled the nerve center of the factory, is production control. Here the flow of materials and parts through the maze of machines is governed. Ingenious systems, varying with individual plants, shows at a glance the position and quantities of parts in the journey from receiving platform to shipping floor. The production control people can tell, for example, how many rough crank shaft forgings are on the floor, how many semi-finished crank shafts there are and where they are, how many finished pieces are available. This is vital information.

But of all the dramatic operations that enter into the manufacture of homogenizers the laboratory stands as the place where the known and the unknown, the possible and the impossible are synthesized into a subtle combination of tedious routine and stirring exploration. Here the highways lead to the ends of the earth. Any liquid is fair game for the laboratory. Forcing milk through a restricted orifice under pressure has a salubrious effect on the milk. What about other liquids? What about paint or oil or glue or facial cream? What about shellac?

The attitude of the laboratory is "let's find out." Find out they do. As a result there is an ever widening use of homogenizers in industry. Cosmetic manufacturers are turning to the homogenizer for a solution to problems that are involved in preserving milady's feminine charms. Better lubricants, paints with a finer distribution of pigments, are other promises that the homogenizer holds for mankind. It is in the laboratory that these possibilities are explored. It is in the engineering section that they are given their practical expression and it is in the machine shop, in the finely tuned relationship of man and machine that the idea is transformed into reality.

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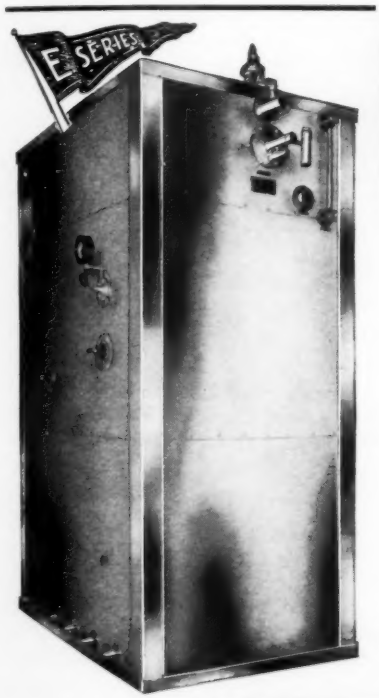
HOMO OPERATING TIPS

(Continued from Page 26)

accordance with the manufacturer's recommendations, either by replacing the valve seats or reworking the head block. Plunger packing should be regularly replaced when it has become worn or frayed and does not properly seat or where excessive tightening of the packing gland is necessary in order to prevent leakage. When the plunger packing does not give normal service, it is usually due to scoring or wearing of the plungers in which case they should be replaced. A steady stream of water on the plungers is necessary for proper lubrication and care should be exercised to insure a reliable source of supply for this water. In many plants where the water supply lines



CONSIDER THE MANY ADVANTAGES OF THE "King Zeero" ICE BUILDER

✓ Dependable Cooling
✓ Greater Ice Capacity
✓ Lower Refrigerant Content
✓ Greater Economy
✓ Reduced Cooling Costs

"The New Proved Standard in Sweet Water Cooling"

☆

46 Models and Sizes, vertical and horizontal, capacities 1,000 to 13,000 pounds.

Write for Bulletin No. 74-E.

Patent 2448453 Other Patents Pending

THE KING ZEERO COMPANY
1447-55 Montrose Ave. — Chicago 13, Illinois

are too small the opening of a valve in some other part of the plant may cause the water to cease flowing at the homogenizer, in which case, the packing and plunger could suffer serious damage. The oil seals on the plunger shafts should be replaced as soon as there is evidence of leakage of oil from the gear case or leakage of water into the gear case, as both of these conditions can result in damage to the machine drive. The "V" belts should be kept properly tightened to prevent belt slippage and should be replaced when they become excessively worn.

An homogenizer should be completely dissembled for proper cleanup and after washing, the parts should remain dissembled until they have completely dried. Where homogenizer parts are reassembled before drying electrolytic pitting of various parts will occur. Any parts which are damaged by dropping should be inspected before reassembling as some of the materials used in the homogenizers are hardened and the impact of dropping may cause a metal fracture which could cause serious damage to the machine after it is in operation. In most homogenizers the parts are numbered according to the cylinders on which they are used and all of these parts should be reassembled in accordance with this numbering arrangement. All parts on homogenizers should fit in such a manner that assembly is possible without the use of excessive force and if they do not go together readily, they should be inspected for possible damage. The pressure sensitive element on the pressure gauge should be handled with extreme care during washup procedure to prevent damage. Parts can best be handled on rubber mats and the use of a small washup table equipped with casters will prove to be a handy accessory in speeding up washup procedure and minimizing possible damage to the machine.

The manufacturer who manufactured a machine is the best source for the proper servicing information as he has a very vital interest in keeping users satisfied. When there is any question as to the proper method of handling the machine, the manufacturer should be the first point of inquiry.

The information given in this article is of a general nature and is not intended in any way to supplant the recommendations of a manufacturer for his own particular machine.

●

INDUSTRY PROBLEMS

(Continued from Page 48)

to one of the accelerated aging tests, both at the time it goes into storage and during the course of storage, so that the butter which is not storing well can be used up early in its life and the more stable butter saved for the latter part of the season.

Probably the 8-day incubation test is best for your purposes. This test is performed in the following manner and the apparatus required is relatively simple.

The butter is judged for flavor and the score recorded. Some of the butter is then packed in a clean, dry, sterile screw-top bottle (2 oz. size is satisfactory) using a sterile knife. Pack the butter in so that the bottle is as full as possible without touching the cap. Seal the bottle and hold it 8 days at 70°F., then chill it overnight, and score it again. If off flavors have developed, the butter should be removed from storage as quickly as possible, but butter which shows no deterioration can be expected to keep for a reasonable time.

SALES AND SALESMEN

(Continued from Page 40)

as distinct from the production phase, and it is important that a stimulating incentive plan be set up for salesmen and route foremen.

It has been found effective to set quotas for individual routes, quotas that are obviously reasonable, and to award a certain scale of credit points per package for making quota.

A much lower scale of points is set up where sales fall below quota and a much higher scale of points set up for sales as they exceed the quota, these becoming progressively higher the greater the excess of sales over quota.

The most successful promotions are launched with a kick-off dinner. Menu for the dinner includes a choice selection of cottage cheese dishes, recipes for which appear in the sales literature. These are carefully explained to the sales employees and they are encouraged to sell these recipe ideas to their customers.

At this meeting the sales program is very carefully explained. The incentive schedule is fully outlined. In many cases the sales force is divided into two evenly matched teams and the men on each team are stimulated to do a superlative sales job, not only to win distinction and reward for themselves, but also for the honor of the team.

Do a Complete, Well-Rounded Job of Selling

They are carefully coached to utilize fully *all* the sales helps, including sales literature and point-of-sale advertising – encouraged to make the

GENERAL VIEW 1950 SESSION

1951 GUNDLACH
MILK CLINIC
March 13, 14, 15

Industry leaders from all parts of the nation will attend this vital three day sales and production clinic.
This is for the heads of business — and their key personnel.
Reserve these dates and write for details today!

G. P. GUNDLACH & CO.
"Servants to the Dairy Industry"
1201-07 WEST EIGHTH ST. CINCINNATI 3, OHIO

XUM

greatest possible number of calls and to utilize the literature so that it will work on the customer's mind and make her a *habitual* cottage cheese user.

Wherever it is possible, store demonstrations are arranged for and cottage cheese advertising is made as dominant as possible in all retail outlets.

Concerns having city-wide distribution that enables them to get full value for the circulation they pay for in newspaper and radio advertising, wisely re-enforce the point-of-sale effort with newspaper publicity and radio commercials. Recipes and novel ways of combining cottage cheese with other tasty foods are used to spice the publicity program. Recipe releases to the food editors are particularly helpful.

Whether the campaign be for three or four or six weeks, a definite day by day schedule of activity should be set up and faithfully followed. This is to *insure* that each individual performs as planned.

●

PORTRAIT OF A DAIRYMAN

(Continued from Page 32)

Agricultural College and is now the University of Connecticut. He took advantage of these opportunities for learning and looks back on them with considerable satisfaction. "They were a mighty good supplement to the practical education that I received in the field," he says.

But Mr. Clark is more inclined to look ahead than to reminisce. New methods, new ideas, new techniques are the things with which he is concerned. He feels that in the development of containers there is great promise. "We will probably see the day," he says, "when single service containers are nearly universal. It may be a modification of the present glass containers, possibly an improved paper affair, it might even be some kind of plastic. I don't propose to know the answer but something that will eliminate bottle washing and yet cost no more than our present containers is what I have in mind."

He looks for better methods of handling milk in the plant. Fully aware of the remarkable strides that the industry has made during his lifetime he believes that continued progress is inevitable. "Glass pipe or some other kind of stationary pipe is an area where I hope to see considerable development," he declared.

An observation one hears made very frequently about the milk business concerns the caliber of the individuals who are in it. Men from other industries coming in contact with the industry for one reason or another are more than likely to remark, "You know there are awful lot of solid citizens in the dairy business, an awful lot of them." Clayton Clark is one who substantiates such observations. In a quiet, modest way he keeps his plant moving along day after day, efficiently and productively. Like most folks in the milk business his name doesn't make the headlines but there are several thousand consumers of milk in south eastern Connecticut who can be mighty thankful that a mild mannered capable man by the name of Clark stands behind every bottle of milk they take out of their refrigerators.

A NEW Stainless Steel

G.P.&F. CREAM CITY MILWAUKEE

MILK STRAINER

Made of sanitary stainless steel, it offers virtually a lifetime of service in the production of pure milk.

IMPORTANT CONSTRUCTION FEATURES

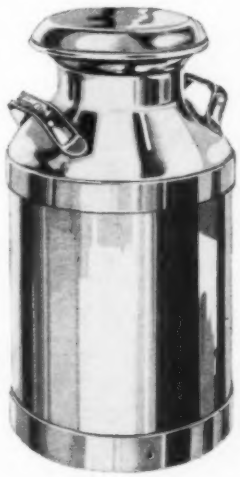
(1) **WIDE TOP FLANGE:** Permits easy lifting without getting fingers into the bowl.

(2) **STREAMLINED SHAPE:** Fast straining and easy cleaning. No sharp corners. Base is contoured to fit mouth of milk can . . . no accidental tipping.

(3) **WELDED DISC HOLDER HANDLE:** A new method of welding eliminates all grooves or crevices that can act as dirt traps. Joints absolutely smooth and sanitary.

(4) **ROUNDED BAFFLE EDGE:** Bottom edge of baffle is smoothly rounded . . . no sharp edges to cut filter disc.

18-Quart Capacity—takes 6½" Filter Disc



An Important New Improvement in G. P. & F. Cream City

SEAMLESS SANITARY MILK CANS

Cream City, *Seamless, Solderless Milk Cans* now have a streamlined straight breast. The joint where breast and body join is now rounded with the following results:

(1) Fast, free flow of milk with minimum swirling. (2) Easy complete drainage. (3) More sanitary washing and rinsing. (4) Complete visibility of interior for easy inspection. (5) No space for milk-stone to gather.

Stock and sell these better dairy utensils along with Cream City Hooded and Open Top Dairy Pails.

Write Today for New Folder on Complete Line of Cream City Dairy Ware

GEUDER, PAESCHKE & FREY CO.

1333 St. Paul Ave., Milwaukee 1, Wisconsin

USING OUR SEPARATOR

Lumber Brand

MONSANTO Chemical Company has registered a brand to identify construction lumber and other wood items preserved against decay and insects with Monsanto's penta.

The brand, "MP" for maximum protection, will be licensed to plants qualified to treat by the vacuum-pressure process in accordance with specifications being established by the company. The identifying mark, a pentagon containing penta content and other information, is to be indelibly stamped onto each piece meeting specifications.

Penta is an oil-borne wood preservative accepted as standard by the American Wood Preservers Association. It has been included in many federal, state and industrial specifications covering the preservation of guard rails, bridge timbers, poles, cross arms, lumber and mill work.

K. R. Fox, manager of Monsanto's wood preservative sales department, said that the specifications would require Penta equivalent to a minimum retention of six pounds of 5 per cent pentachlorophenol solution per cubic foot of wood. "Of course, this will vary with the type of wood and intended use," he said. Lumber treated under the Monsanto license must be paintable and not discolored.

"Other methods of applying penta have their place," Mr. Fox continued, "but we believe that architects, engineers and builders will come to recognize the "MP" brand as a mark of deep and uniform protection against wood destroying microorganisms and insects.

Mr. Fox estimates that the essential members below the first floor of a five or six-room frame house may be treated at a cost of $100 to $150, or about 50 cents per month on the average home loan. The company was the first to introduce penta as a commercial wood preservative.

●

Mold Fillers

TWO NEW mold filling machines have recently been added to the line of equipment made by Anderson Bros. Mfg. Company, Rockford, Illinois.

The Model 45 provides fast, accurate production of frozen liquid bars on a fully automatic sequence. Single or twin molds can be filled with this machine which is equipped with a measuring cylinder for each mold cavity. Twenty-four cavities are filled at one time – quantity adjustable from 2 to 4 ounces. Production up to 1,800 dozen novelties per hour.

The Model 46 mold filler is for dispensing ice cream and other products having the consistency of ice cream. Operation is fully automatic when filling single or twin molds with one flavor. When dispensing two flavors at a time, operation is semi-automatic with 12 pockets filled at one time. The hopper, 14-gallon capacity, is divided into two equal compartments to handle multi-flavored novelty production. Speeds up to 1,800 dozen novelties per hour.

●

Antiseptic Westone

INCREASED sanitation in milk handling and processing establishments at a saving in cost over ordinary maintenance methods is now possible through the use of Westone, an antiseptic floor treatment with bacteriostatic properties, developed by West Disinfecting Company.

Formulated primarily for the treatment of floors, Antiseptic Westone is now being used successfully in many U. S. and Canadian dairy operations on fixtures and equipment as well.

Antiseptic Westone keeps the air free from dust because it is scientifically formulated for the multi-purpose preservation of floor surfaces, enhancement of floor beauty, and the elimina-

Sani-Matic **PIPE and FITTINGS RACK**

Just right for carrying and storing a lot of fittings and short pipe sections. Portable — convenient size.

FIG. 153

THE SCHLUETER CO.
JANESVILLE, WIS.

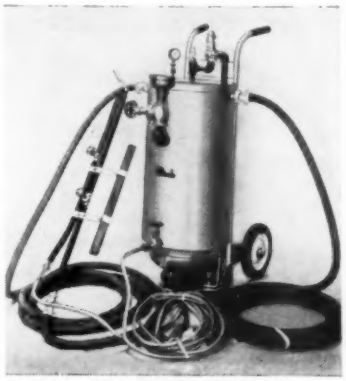
tion of dust, thus helping prevent the spread of the harmful bacteria and viruses. Westone not only removes dust from floors but leaves an antiseptic film which inhibits the growth and multiplication of the bacteria present. Its surface-sealing film holds down subsequent dust for quick, easy removal.

The West company claims Antiseptic Westone has had more than a year's field testing, on a large commercial scale, in all types of buildings and institutions and industrial plants. Thorough-going techniques for application of the liquid have been perfected. One gallon of Westone covers 4,000 square feet of surface; it is stainless and clean to use with a rag, mop or by spraying; reductions in floor maintenance costs of 50 per cent have been realized.

The West Disinfecting Company, through its main office at 42-16 West Street, Long Island City 1, N. Y., and its 64 branches in principal cities of the United States and Canada, has detailed literature available on Antiseptic Westone, and will give demonstrations at your premises without charge or obligation.

Jet Cleaning

LIVINGSTONE ENGINEERING COMPANY, Worcester, Massachusetts, announces a new steam-jet cleaning unit to be known as Speedyjet, designed to make available to companies who have ample high pressure steam supply the advantages



of the Speedylectric system of steam-jet cleaning.

The Speedyjet includes a high pressure detergent tank mounted on a light weight all-metal dolly with rubber tired 10″ wheels and handle bar grips for easy portability; also 25′ of high pressure steam hose for connection to the source of steam and 25′ each of steam and detergent hose from the tank to the Speedylectric steam lance. The unit is equipped with pressure gauge, 200-PSI safety valve, and necessary control valves.

It is built under the ASME code and carries National Board Stamping and Insurance Company Certificate. The detergent tank is thoroughly insulated and enclosed in an enamelled metal case. In operation, the tank is filled with detergent or solvent and steam is admitted in the top of the tank to put the liquid under pressure. Detergent flows from the bottom of the tank through the detergent hose to the lance where it is atomized with the steam and directed at high velocity against the object to be cleaned. In this system of steam-jet cleaning, solvent, detergent or paint stripper can be applied either alone or mixed with steam in any desired proportion. In addition to its industrial applications, Speedyjet has an important field for cleaning and sterilizing in

An Urner-Barry Service Feature . . .

SPECIAL WEEKLY STATISTICAL REPORT

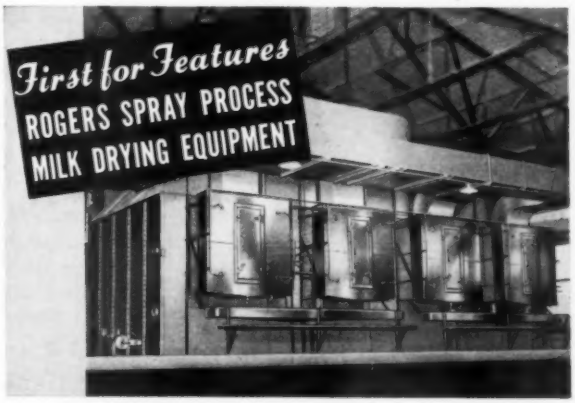
A Careful Analytical Study of the position of Butter, Eggs and Dressed Poultry . . .

By Mail or Wire . . . Write for Sample Copy

URNER-BARRY COMPANY

Publishers Since 1858

92 Warren Street New York 7, N. Y.



★ FULL RECOVERY OF SOLIDS ★ SPECIALLY DESIGNED CLOTH FILTER BAGS ★ ECONOMY IN POWER AND STEAM ★ ONE MAN OPERATION ★

For outstanding features, choose a Rogers Drier . . . for purity, fine flavor, high solubility. Specially designed cloth filter bags assure full recovery of solids . . . an important extra-profit point. One or two-floor installation with sizes to meet all production requirements. Get the facts now . . . why you'll be better pleased with Rogers superior construction and advanced engineering.

"The Choice of Dairyland" Since 1883.. Rogers

C. E. ROGERS COMPANY, 8731 WITT ST., DETROIT 9, MICH.

restaurants, hotels, hospitals, and institutions, wherever steam is available at pressures in excess of 80-PSI. Lower steam pressure can be used but for the most effective cleaning higher pressures are needed.

●

Conveyor Catalog

THE M. & C. Conveyor Company has recently put out a catalog showing their complete line of chain and belt conveyors, designed specifically for Dairy and Ice Cream Plants. A copy of this catalog may be obtained by writing W. S. Campbell, M. & C. Conveyors, Inc., 2900 W. Carroll Ave., Chicago 12, Ill.

●

Decalcomanias

TO PERMIT practical demonstrations of large scale Decal installations, The Meyercord Co., Chicago, decalcomania manufacturer, have adopted three dimensional Stereo-Viewer kits, designed as a visual aid for their sales department.

Each salesman is equipped with a light, compact kit containing viewing apparatus and sets of photographic slides, showing, in full color, actual use of Decals on trucks, tank cars, large machinery, and their use as window signs and valances.

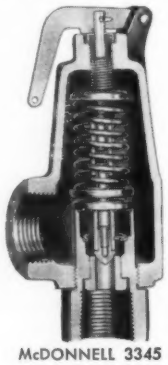
The kits are intended to give the customer the additional benefit of *actually seeing* many types of locations and surfaces where low cost Decals may be used to advantage for nameplates, signs, truck lettering and product decoration.

Reports from the field, backed by increased sales, directly traceable to the use of the kits, indicate extremely favorable reception by customer and salesmen alike.

Safety Relief Valves

THE DEVELOPMENT of a new moderately priced, large capacity safety relief valve for domestic water heaters and tanks is announced by McDonnell & Miller, Inc., Chicago 18, Illinois.

Designed to fill the vital need for a valve that will prevent excess pressure under every condition that can



McDONNELL 3345

develop in a hot water system, each valve in this new McDonnell series 3345-33150 is rated in BTU capacity – its capacity to dissipate heat. With this rating it is possible to select the valve that will open at the desired pressure and that has capacity equivalent to the heat output of the firing means. All valves in the series are certified for capacity by the National Board of Boiler and Pressure Vessel Inspectors, and bear the official ASME symbol of compliance with the code.

Operation of the valve is simple. At normal temperature, water is relieved at a low rate, but when temperature rises into the emergency zone the increased velocity acts on the "Hydra-lift" ring, snapping the valve wide open to dissipate heat at full discharge rating.

Valve needle is stainless steel, hardened and ground to polished finish. Seat is also stainless steel. All working parts are corrosion resistant.

Opening pressures 45, 75, 100, 150 pounds per square inch. All inlet connections are ¾"; outlet connections are 1".

●

Dairy Equipment Bulletin

EQUIPMENT FOR the Dairy Industry is described in Bulletin WP 1099-B57, according to an announcement by Worthington Pump and Machinery Corporation, Harrison, N. J.

The 4-page bulletin pictures and describes the following: Vertical Ammonia Compressors; Ammonia KDV Pumps; Horizontal Compressors; "Y" Compressors; Air Cooled Air Compressors Motor Driven; Monobloc Centrifugal Pumps; Flame Mounted Motor Driven Centrifugal Pumps; Split Case Centrifugal Pumps; Horizontal Duplex Piston Steam Pumps; Vertical Turbine Pumps; and Allspeed Drives. Please use your company letterhead when requesting the bulletin.

●

New Aerosol Insecticide

THE Pennsylvania Salt Manufacturing Co. has entered the aerosol insecticide field with a new 12-ounce bomb-type package under its Knox Out label, it was announced by company sales officials.

This pressure-packed container, will round out a complete line of Knox Out insecticides and weed killers for home and garden use.

The new product, a mist spray containing DDT, pyrethrum and piperonyl butoxide, kills most common

"DAIRY FRESH" At The DOORSTEP . . .
With INSULATED
SERVICE CABINETS
Protect your quality all the way...Aluminum and steel . . . Thermo Seal ½"' insulation . . . tight cover . . . and proof hinges . . . all sizes. Your name stenciled or **beautifully embossed** on cabinet. Postage paid on sample, list price.

Write Today . . . or Ask Your Dairy Supply Salesman
MUCKLE MFG. CO.
OWATONNA 10, MINN.

KEEP POSTED
BY MAIL--

The Producers' Price-Current, Subscription Edition, published every business day in the year except Saturdays, gives very full and accurate reports of the New York produce markets — eggs, poultry, butter, cheese, fruits, vegetables, etc. Recognized everywhere as the authority on current values. Subscribe at once and keep the paper on file for reference. Subscription rates on request.

URNER-BARRY COMPANY
Publishers
92 WARREN STREET NEW YORK 7, N. Y.

insects, including flies, mosquitoes, gnats, roaches, waterbugs, silverfish, fleas, bedbugs, ants and moths. A room 10 feet square can be freed of small flying insects when the spray is released in all directions for five seconds and the room closed for 15 minutes. Larger insects, such as hornets and wasps, must be subjected to the spray for a few seconds longer. The spray may also be used out-of-doors for the temporary elimination of insect pests. For this purpose 100 sq. ft. of ground require spraying for five to seven seconds and plants must be protected.

Knox Out Aerosol Insecticide comes in a self-dispensing can with a rubber valve-type opening. When opened it may be partially used and the remainder stored for later applications.

This product is offered for domestic use by the B-K and Household Products Department of the parent company and in other countries by the Pennsalt International Corporation.

●

Carbon SS Alloy Pipe

A NEW DATA card on seamless and welded pipe of carbon, alloy and stainless steels is offered by The Babcock & Wilcox Tube Company. Table 1 lists dimensions in 16 sizes of pipe from ⅛-inch to 8-inch nominal size, with five different weight schedules according to wall inches and inside diameter. Table II gives ASTM and ASME specifications with grades and analyses for various types of pipe for high-temperature and other services. The double card, TDC 138, is available on request to The Babcock & Wilcox Tube Company, Beaver Falls, Pa.

In addition to the seamless and welded pipe mentioned above, the company, with plants at Beaver Falls, Pa., and Alliance, Ohio, manufactures seamless and welded tubing in carbon, alloy and stainless steel grades for all mechanical and pressure applications.

●

Food Bulletin

A NEW CONDENSED bulletin of edible surface active agents is now ready. It includes emulsifying, stabilizing, defoaming, thickening, suspending, and softening agents for the food and allied industries.

These products are made with natural fats and oils under rigid control to definite specifications. By means of these modern materials improved products and economies are possible. They are being used to advantage in baked goods, candy, chewing gum, ice cream, oleomargarine, peanut butter, yeast, etc.

This new bulletin contains data on these materials and suggestions for their use. It may be obtained from the Glyco Products Co., Inc., 26 Court Street, Brooklyn 2, N. Y.

●

Small Cottage Cheese Vat

TO FULFILL all the requirements for the production of high quality cottage cheese in relatively small batches, the Kusel Dairy Equipment Company, Watertown, Wis., is now marketing a new small vat known as the Kusel Midget Cottage Cheese Vat. In addition, the vat is also adaptable to a number of varied laboratory uses.

The bottom of the vat is flat and at right angles to the sides and slopes toward a large gate valve for fast, complete drainage. This feature permits easy cutting of curd into cubes. Heating is accomplished by flooding the jacket (12 gauge all-welded steel exterior with inner pan of 20 gauge No. 4 finish stainless steel) and adding steam until the desired temperature is reached. A tested thermometer is standard equipment. To allow for different levels of milk, the Kusel Midget is equipped with variable height overflow. Vat legs are of the sanitary ball-type and are adjustable. A choice of aluminum, gray or white enamel exterior finishes is available.

Additional information may be obtained by writing the Kusel Dairy Equipment Company, Watertown, Wis., and asking for illustrated Bulletin 7E.

●

Fountain Washer Brush

AN IMPROVED fountain washer brush has just been introduced by the Industrial Division of The Fuller Brush Company.

This new model is now supplied with a standard tapered pipe thread which allows the user to equip the brush with various lengths of handles.

Although the brush is normally supplied with a 5′ handle, a 2½′ extension and coupling is available. The fully adjustable shut off valve with hose connection is removable.

The brush head may be easily and quickly replaced without the necessity of discarding the entire unit. The old brush head is unbolted and the replacement unit, which uses a mixture of nylon and horsehair as brush material, is bolted in place.

For other information, address The Industrial Division of The Fuller Brush Company, Hartford 2, Conn.

THE WORLD'S LEADING DAIRYMEN

choose the world's leading Cultured Starter: FLAV-O-LAC FLAKES. Famous for flavor, aroma and smoothness in the finished product.

YOGHURT CULTURE

A DIVISION OF DALARE ASSOCIATES

Single Bottle $2.00 Needs only one propagation

The Dairy Laboratories

PHILADELPHIA 3, PA.

Branches: NEW YORK - BALTIMORE - WASHINGTON

WANTS and FOR SALES

Classified Advertising Rates

(Kindly send remittance with order)

Position Wanted

50 word maximum, 50c — 2c for each additional word.

All Other Advertisements

Lightface type: 5c per word ($1.00 minimum).
Boldface type: 10c per word ($2.00 minimum).
(The name and address should be included in counting the words.)

Keyed Address

25c additional in the United States.
50c additional in Foreign Countries.

When replying to any of the following keyed advertisements please address replies to:

BOX NO.....AMERICAN MILK REVIEW
92 WARREN STREET NEW YORK 7, N. Y.

(The deadline for Classified Advertising is the 10th of the month preceding publication.)

No classified advertising will be accepted to run with borders or special spacing. All such advertisements are considered "Display" advertising and will be billed at regular display advertising rates. (Rates and mechanical requirements on request.)

EQUIPMENT FOR SALE

CONTACT HERSHEY ESTATES DAIRY, Hershey, Pennsylvania, to buy any of the following items; 8 wide Dumore, Junior milk bottle washer, available March 1951, in operation daily, come see it, being replaced by larger machine; 75 ft. Mojonnier milk bottle conveyor complete with track, chain, stands, drive and one 90 degree corner, available March 1951; Also 56 mm bottles and cases, some gravity conveyor. AVAILABLE AT ONCE: 200 gallon Pfaudler glass lined tank, agitator, jacketed; Model C Mojonnier milk bottle filler—in operating condition, or use for parts; Liquid ammonia valves and fittings, 3 ammonia surge drums, about 4000 ft. ammonia coils. 2-M-51

FOR SALE—Tanks mounted on trailers. Capacities—4150 gallons, 3500 gallons, and 3450 gallons. All equipped with air brakes and tire carriers. 2050 gallon tank mounted on Fruehauf trailer with booster brakes. For full particulars write P. O. Box 1204, New York 8, N. Y. 1-M

FOR SALE — 4F Heil washer for immediate delivery; 22 bottles per minute; pockets need some repair, $250.00. 300 gallon Barrett pasteurizer, stainless steel inside and outside, completely insulated. 200 gallon Barrett pasteurizer; stainless steel inside. 200 gallon Barrett spray vat; stainless steel inside. Peoples Dairy, Inc., 2237 Gay Street, Fort Wayne, Indiana. 2-M-51

EQUIPMENT FOR SALE

SPECIAL OFFERINGS — 300 gallon York Stainless Steel Holding Tanks with brine circulating coils; 500 gallon Stainless Steel Surge Tank 71" dia. x 36" deep; 1000 gallon Jensen Vertical S. S. Coil Vat; Speirs Plastic Cream Cooler; 9.9 H. P. Kewanee Scotch Marine Boiler and Oil Burner. Write or wire your requirements. Lester Kehoe Machinery Corporation, 1 East 42nd Street, New York 17, N. Y. Telephone—MUrray Hill 2-4616.

FOR SALE — 6 ft. Cherry-Burrell Surface Cooler, 30-1" s.s. tubes; Two Mojonnier Stainless Steel Cabinet Coolers, 8 wings each 72 tubes high; Cherry-Burrell Junior Cabinet Cooler, 9 wings each 36 tubes high; 100 and 200 gallon Round Stainless Steel Pasteurizers, also 100 to 300 gallon Cherry-Burrell S. S. Spray Vat Pasteurizers; 6-18, G-70, G-100, G-160, G-240, GV-20 Cherry-Burrell Fillers; 4, 6, and 8 Wide Bottles Washers; 75 to 1500 gallon Homogenizers or Viscolizers; 500, 1000 and 2000 gallon Pfaudler Glass Lined Storage Tanks; 3 ft to 6 ft. Stainless Steel (also Copper) Vacuum Pans. Write or wire your requirements. Lester Kehoe Machinery Corporation, 1 East 42nd Street, New York 17, N. Y. Telephone—MUrray Hill 2-4616.

FOR SALE — New Buflovak vacuum pan, 5.5-20 complete with controls. Original Springs Dairies, Inc., Breese, Illinois. 6-M-51

EQUIPMENT FOR SALE

FOR SALE — Wax and paraffin melting tanks. Made to order. Either steam or electric heated. Sizes range from 5 gallons to 300 gallons. Prompt delivery. Barnett Brothers, Columbus, Wisconsin. 2-M-51

FOR SALE — Girton Case Washer. This washer is two years old and is being replaced with a larger one. It is in perfect condition and can be seen daily. Port Murray Dairy Company, Port Murray, New Jersey. 2-M-51

FOR SALE — One 14 Valve Cemac Filler complete less capping heads. Perfect condition. Reason for selling; replacing with a larger filler. Reply Box 77, care this publication. 2-M-51

FOR SALE — 100 wood crates for round milk bottles, like new, 25 cents each; also 12 gross 12 oz. Eze-Orange bottles, never used, $2.50 per gross. Roselawn Dairy, Menasha, Wisconsin. 2-M-51

EQUIPMENT WANTED

WANTED — 2000 Gallon stainless steel milk storage tank. Give full description and price. Rockland County Milk and Cream Company, Spring Valley, New York. 2-M-51

WANTED — A good used Viscolizer or Homogenizer. Give size, make, price, and condition. Reply Box 75, care this publication. 2-M-51

WANTED TO BUY — 3 or 4 foot diameter Buffalo-Vac or Arthur Harris type condensing pan, copper or stainless steel. Describe or give price in first letter. Wire or write, Dairy Engineering Service, Pikesville 8, Maryland. 2-M-51

HELP WANTED

GENERAL SALES MANAGER—For nationally advertised dairy specialty product. To live in large mid-western city. To supervise established sales office and their personnel, handling general sales problems in the contacting of dairy and retail grocery operations. Constant traveling. Age 35-45. Salary $15,000 per year to start, commensurate with past experience and ability. State fully background experience, references, marital status, photo if possible, etc., in first letter. All replies will be held strictly confidential. Reply Box 72, care this publication. 2-M-51

EASTERN SPECIALTY PRODUCTS Inc.
CUSTOM MADE DAIRY SYRUPS
83 ZEIGLER STREET BOSTON 19, MASS.

OUR OWN The Attractive Drinking Glass Packed with the Finest Chocolate Syrup

For Your Retail Customers

WITH AN ATTRACTIVE GOLD FOIL LABEL IMPRINTED WITH: **YOUR OWN** DAIRY NAME

SEND THIS COUPON FOR FREE SAMPLE

Dairy Name .....
Address .....
Town .....
Purchasing Agent .....

Self-Service **FOOD SALES**

STURDY-BUILT
FOOD VENDING STATIONS

Self contained refrigerated unit 8' x 8' x 16' — ready for operation as independent outside installation. More sales at greater profit. Direct sales to customer — more convenient for consumer — greater distribution at lower selling and delivery cost — supplement present sales and distribution.

Complete with venders, delivery chutes and coin switches. Vend Packaged Ice Cream, Milk, Butter, Frozen Food, etc.

Product of F. B. DICKINSON & CO., Highland Park Sta., Des Moines, Ia.

WRITE TODAY FOR DESCRIPTIVE FOLDER

HELP WANTED

WANTED AT ONCE—Leading chemical sanitation firm operating coast to coast has openings for two experienced senior salesmen. Dairy school graduates with practical plant experience preferable. Excellent earnings assured. Salary, commission and expenses. Give details in first letter. Reply Box 76, care this publication. 2-M-51

FACTORY REPRESENTATIVE—By well known chocolate manufacturer specializing in quality chocolate products for dairy, ice cream, and fountain trade. Established territories open. State territories covered and lines represented. Replies confidential. Reply Box 81, care this publication. 2-M-51

POSITION WANTED

POSITION WANTED—Supervisor or manager of milk plant. Able to take full charge and responsibility where owner wishes to retire. Working knowledge of all departments. Over fifteen years experience as dairy owner and operator. Also some experience in mix and ice cream production. Willing to work on straight salary or on profit sharing basis. Reply Box 79, care this publication. 2-M-51

POSITION WANTED — As plant superintendent or production manager. Technical and practical knowledge in all phases of the industry, over 20 years experience as plant manager in large New York City approved manufacturing plants. Qualified laboratory technician — New York State licensed bacteriologist. Reply Box 78, care this publication. 2-M-51

MISSING PERSONS

Information is being sought of ROBERT GORDON alias JAMES GORDON on behalf of his wife and two minor children, who since May, 1948, have not had any word of or from him. Mr. Gordon was born July 18, 1908, in New York City. He is 5 ft. 5 in. tall, weighs 145 lbs., has dark eyes, dark hair, tattoos on his arms, was employed as a milkman. Anyone aware of this man's present whereabouts is requested to communicate with the National Desertion Bureau, 105 Nassau Street, New York 7, N. Y. 1-M

THERMOMETER REPAIR

We repair Mercurial Indicating Thermometers, dial thermometers and recording thermometers of all makes. Instruments are reconditioned like new. Satisfaction guaranteed. For economical savings, ship your thermometers to Nurnberg Thermometer Company, 124 Livingston St., Brooklyn, New York. 8-M-t.f.

REPAIR SERVICE

PASTEURIZERS REPAIRED—Modernize your old pasteurizers by converting them to time and fuel saving "Vapor-Heat." Do away with costly pump and motor repairs by eliminating them. Write to 125 Farnham St., Belmont, Mass. 2-M-51

BUSINESS OPPORTUNITY

FOR SALE — In the heart of Wisconsin, Milk and Ice Cream Plant. Perfect buildings, equipment. Good clean business. $30,000 down, balance of $25,000 in five years for everything. Reply Box 64, care this publication. 1-M

MISCELLANEOUS WANTED

WANTED — Obsolete, discontinued sizes and surplus corrugated and fibre cartons. Regal Box Company, 1835 North 30th Street, Milwaukee 8, Wisconsin. 5-M-51

MISCELLANEOUS

REBUILT — Pasteurizers, Milk Coolers, Bottle Fillers, Ice Machines, Plate coolers and heaters. Send us your requirements. Ohio Creamery Supply Company, 701 Woodland Ave., Cleveland 15. 7-M-t.f.

FOR SALE—18 retail milk trucks, 1947 models in excellent condition. 10 Dodge and 8 Delivir-alls. Write White Dairy Company, 621 So. 27th St., Birmingham 5, Alabama. 11-M

FOR SALE — Dairy Orange-ade base made from fresh oranges. Ready to use, add nothing but water. $1.35 per No. 10 tin. The Bradway Chocolate Company, New Castle, Indiana. 8-M-t.f.

FOR SALE—Grape-ade base for making dairy type grape-ade. Nothing to add but water. Mixes one to five. Bradway Chocolate, New Castle, Indiana. 8-M-t.f.

FOR SALE — Truck lettering and trademark decals, made for your truck and store advertising. Easy to apply; uniform, distinctive, economical for small or large needs. Write for catalog. Mathews Company, 827 South Harvey, Oak Park, Illinois. 8-M-2

FOR SALE — Non Settling Chocolate Syrup and Powder for making chocolate milk. Ask your dairy supply jobber or write us direct. The Bradway Chocolate Company, New Castle, Indiana. 8-M-t.f.

and: STRENGTH!

The Key to Egg-Profits:
AVOID BREAKAGE,
Use the STRONG carton.

Write for information:

Egg-Safety CARTON
DIVISION OF
ROBERT GAIR COMPANY, INC.
New York - Toronto
PAPERBOARD - FOLDING CARTONS
SHIPPING CONTAINERS

BUSINESS OPPORTUNITY

SAVE MONEY ON PRINTING — Mail me samples of your route sheets, daily reports, statements, delivery cards. Mose Pearlstone, P.O. Box 546, St. Louis, Missouri. 2-M-51

CO-OP BONUS SHARED

The Golden Guernsey Dairy Co-operative, Milwaukee, announced at their Christmas party Dec. 20th that farmers furnishing milk to the co-op and all employees of the firm would get a 5 percent bonus on annual earnings for 1950. President Gavin W. McKerrow said the bonus would go to 906 farmers and employees.

QUALITY in Dairy Products Begins With the Cow.

Milk is a Food. MASTITIS is a Disease. Milk that comes from an udder of a cow having Mastitis IS the "Product of a Diseased Cow." — See Sec. 402-A of the Federal Food and Drug Law which says "Such Milk is Adulterated and unfit for Human use."

C. M. DeGolier, President of Deerfield Creamery says "That where we supply a Producer with your fast acting, Accuracy Attested —

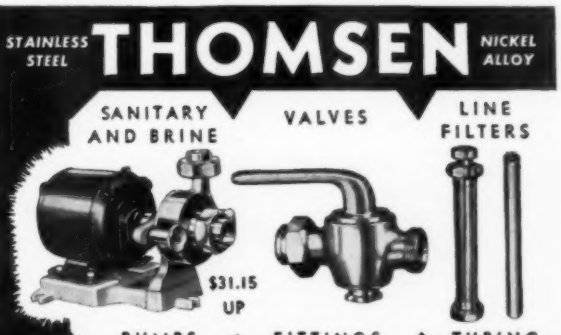
KO-EX-7 Brom Thymol Mastitis DETECTORS

it is of TREMENDOUS VALUE in helping us to maintain our Quality Standards at the intake."

For sample and further particulars — write today

STERLING RESEARCH CORPORATION
DAIRY DIV. A-2 BUFFALO 3, N. Y.

STAINLESS STEEL **THOMSEN** NICKEL ALLOY



L. C. THOMSEN & SONS, INC., KENOSHA, WIS.
Sanitary Equipment for the Processing Industries

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THREE RECEIVE MANAGEMENT AWARDS

Beatrice Foods, The Carnation Company and National Dairy Cited For Excellence in Dairy Industry

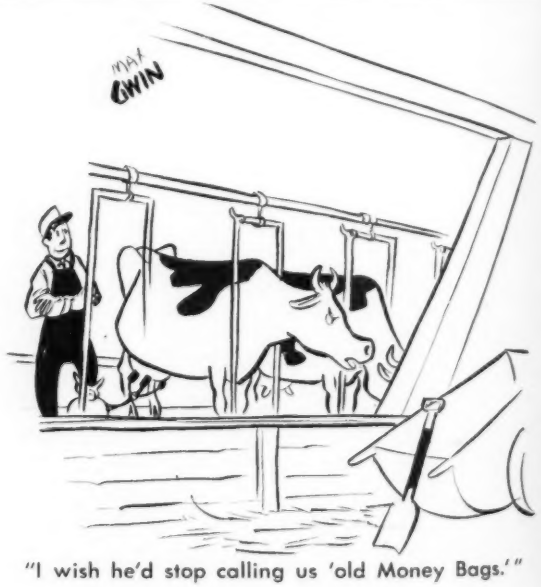
The Beatrice Foods Company, Chicago; the Carnation Company, Los Angeles, and the National Dairy Products Corporation, New York, are among 238 firms throughout the United States and Canada which are being awarded "Certificates of Management Excellence" for the year 1950 by the American Institute of Management, New York, according to Jackson Martindell, president of that non-profit foundation. The awards, which will be bestowed annually hereafter by the Institute, are based on its continuing study of more than 2,000 leading concerns – designed to provide a base for research into corporate policies and procedures.

Ten Areas Considered

In weighing the merits of each management, Mr. Martindell explained, credits are given for excellence in ten separate fields – economic function, corporate structure, health of earnings growth, fairness to stockholders, research and development, directorate analysis, fiscal policies, production efficiency, sales vigor and executive evaluation.

"The purpose of the awards," the A.I.M. president declared, "is to encourage management in all lines of business to give due weight to all ten factors, rather than to concentrate—as many do—on only one or two. For example, Some firms are strong on research and development but lack unity of command within the organization. Others display real genius in financing, but have blind spots in dealing with personnel. Some are notable for aggressive, top-flight selling, but are not preparing younger men to take over when the present company heads retire.

"The fact that this year's recipients come from 25 states and 93 separate industries shows that sound management principles are applicable to all lines of business, wherever located. We hope that succeeding years will witness a further spread, with an increasing number of firms becoming entitled to the designation, 'Excellently Managed.'"



"I wish he'd stop calling us 'old Money Bags.'"